

THE NATIONAL WOOL GROWER

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The English Wool Situation

(By Our Correspondent In England)

THE wool trade still shows evidence of considerable activity, especially in the crossbred section. The month has again brought prominently before the trade the effect of the war upon this class of raw material, and outside spinners and manufacturers who want crossbreds for khaki purposes are evidently making great haste to cover their requirements. The news from Australia, New Zealand and South America is remarkable, record values being paid there. It is really wonderful to find the top side of 42c being paid for greasy fleece for which in ordinary times 30c would have been considered big figures. It makes one think of the end of 1901, when good low quarter - blood fleece wool was obtainable in London at 8c, and the very wool that has sold in Melbourne and Geelong at 44c would then have made no more than 15c. Of course, it is entirely due to war conditions, and no doubt to the extraordinarily urgent wants which Italy is trying to cover. One must bear in mind that the wools grown in West Victoria are light and the percentage of clean yield will be on the top side of 80 per cent. At the same time it seems to the majority that it is not so much a question today of price, as being able to get the raw material into Italy as soon as possible, for we hear that there are now mills standing all for the want of ade-

quate and suitable raw material for the production of war fabrics. There has been demonstrated in a remarkable manner the supreme power of Great Britain and her Colonies, and practically the whole of the textile manufacturing world is tied up when Westminster decides to place an embargo on the export of crossbred wool.

moving freely into owners' hands. The auctions opened auspiciously so far as crossbreds were concerned, and largely on account of outside competition prices have sensibly advanced. We consider that medium and fine slipped parcels are all a good 3 to 4 cents dearer, but we cannot see any more than 2c improvement in coarse wools,

of the Lincoln and Leicester type. The strongest call has been undoubtedly for one-quarter blood and upwards, and no really good wools have been available. As a rule they were on the wasty side, heavy and rather skirty, and for wools that were selling in September at 34c, as much as 38c has been paid this series on withdrawn lots. Scoured crossbreds are

also 6 cents to 8 cents dearer, and selling freely both to America and Italy. Of course, buyers want the wools as free of seed as possible, and the same thing obtains for slipped crossbreds. Here again 2c to 3c more has been freely paid for both half-bred and three-quarter bred lambs, but the coarser classes have not appreciated to anything like the same extent. Still the demand has sensibly improved, and that is everything. As a matter of fact, the spirit of the sale room has very much changed when crossbreds were on offer, and the demand ran very strongly upon anything of a nice combing length. Short slipes have not appreciat-



A SCENE ON THE BULLARD FARM, WOODLAND, CALIFORNIA

London Sales' Verdict.

Since writing last the seventh series of Colonial sales have occupied the attention of the trade, and the results are very satisfactory to growers especially. Of course, their interests suffered sensibly at the fifth and sixth series, and now when there is very little crossbred wool for sale, prices naturally rebound sharply. Of course, this is due more to a scarce supply and shipments being allowed to America as well as to Italy, but all the same we have to face the fact that good crossbred wool has received a very hearty reception, and there is every prospect of what stocks are available

ed in the least because trade for these is so limited. As a matter of fact, all the blanket manufacturers of Dewsbury and district where big weights of short carding slipes are used, are running on brown blankets for military purposes, consequently white slipes are not being consumed in anything like the same quantity as they usually are.

Good Merinos Selling Well.

Another outstanding feature of the auctions has been the standing of the best classes of merinos. Wools from 32c to 36c in the grease were wanted quite as keenly as they were in September, and faulty and wasty wools which at the opening lost 2c per pound, sensibly hardened towards the close, regaining all the ground lost. Good average topmaking wools sold freely enough at generally 3c more, and here again the combing machinery of the West Riding is totally inadequate to cope with the wool available. It looks to many as if the price of combed wool, i. e. tops, will remain firm, and raw wool itself decline, but that will not be until America, Japan and Italy cease to be the active competitions that they are today, and that does not look likely at present. Everybody apparently is impressed with the soundness of the situation and is buying very liberally, but all the same there is plenty of cheap merino wool available for those who can use second and third-rate parcels. America has bought some nice lines of good greasy merinos, but Russia continued to be the outstanding feature in the scoured section, although her operations were not so extensive as the previous series.

Changes Seen.

The following will interest American wool growers as showing the final results of the London sales which terminated two days ago. The changes are shown compared with the close of the September series:

Australasian Wool.

Greasy Merino, superior, 3c higher.
Greasy Merino, average to good, 3c higher.

Greasy Merino, inferior locks and pieces, par to 1c higher.

Scoured Merino, superior, par.

Scoured Merino, average to good, 2c to 3c higher.

Scoured Merino, inferior, par to 1c higher.

Greasy Merino lambs, superior, 1c higher.

Greasy Merino lambs, medium, 1c higher.

Greasy crossbred, fine, superior, 3c to 4c higher.

Greasy crossbred, fine, ordinary, 3c higher.

Greasy crossbred, coarse, superior, 2c to 3c higher.

Greasy crossbred, coarse, ordinary, 2c higher.

Scoured crossbred, fine, 6c to 7c higher.

Scoured crossbred, medium and coarse, 4c to 6c higher.

Greasy Punta Arenas, well conditioned, 2c to 3c higher.

Greasy Punta Arenas, wasty, 2c higher.

Greasy Falkland Islands, 2c higher.

South African Wool.

Snow White, super Westerns, par.

Snow White, super, par.

Snow White, medium, 2c lower.

Snow White, inferior, 2c lower.

America purchased 12,250 bales, the Continent 13,000 bales and the home trade 90,000 bales, leaving 23,000 bales to be carried forward to the next series which begin on December 7th, when 105,000 bales will be available.

Good Khaki Business Gone to America

There is no topic which has impressed the members of the wool and textile trades during the past month so much as the statement made by a Batley manufacturer in the House of Commons that five million yards of khaki have gone across the Atlantic to be made by American manufacturers for the Italian troops. Evidently our own Government was not consulted when these orders were placed, and general surprise is expressed even on that point. Huddersfield manufacturers have turned rather quiet, due to the unwillingness of wholesale fabric buyers to pay current prices for worsted coatings and serges, consequently their looms are available for khaki cloths. It is contended that they could have

been delivered several weeks earlier as well as at least 12c per yard saved the Italian Government had the orders been placed in Huddersfield, and many feel a little sore that the West Riding has been entirely passed by under these conditions. Up to the time of writing no explanation is given why this line of action has been adopted, all the same American firms will considerably benefit, and the fact of their being able to buy such liberal quantities of raw material has no doubt strengthened the market and stiffened crossbred values in particular. No new khaki orders are apparently on the point of being given out by our own Government, at least they are not asking for tenders, their stocks still being fairly large. Many think that the old manufacturers of khaki cloths will be kept running, but it is the firms who have made military fabrics for the first time and who apparently have got their hand in, who are feeling most severely the absence of new business. No doubt a good deal could have been done had the special department of the Government dealing with the clothing of the troops been consulted, and with Great Britain having had to find considerable money for Italy, many feel that this country has been slighted in an undeserving way.

The Outlook.

What we think is, that good paying prices are going to be made for all good wools, both Merinos and crossbreds, but increasing difficulty is being met with in the marketing of faulty, burry, seedy wools, due to a lack of machinery for treating same.

IDAHO WOOLGROWERS

TO MEET

The Secretary of the Idaho Wool Growers' Association has sent out the announcement that that organization will meet in annual session at Boise, Idaho, December 29, 30 and 31. As many matters of immediate importance to Idaho sheepmen will be brought up at this conference, it is the hope and desire of the sheepmen of Idaho that every progressive sheepmen in that state attend this conference.

Wool Growing In Australia

"EVOLUTION OF THE AUSTRALIAN MERINO"

By R. H. HARROWELL

MY EARLY articles completed the rough outline of the history of the Australian Merino, and

they terminated with a reference to the folds and wrinkles of the types of American sheep which were imported to this country. But my statements must not be construed into an insinuation that the Australian stud sheep are devoid of folds and wrinkles, because they were developed here from the very same cause that produced them in America, viz.; the action of the breeders in mating for density. As more wool was put on the sheep so the folds and wrinkles became developed, and it has been proved over and over again that if the stud sheep are allowed to get too plain they quickly deteriorate as far as weight of fleece is concerned.

About two years ago I was able to secure a series of photographs which are unique in their way, inasmuch as they represent almost an unbroken line of descent from a very plain bodied sheep—a top notcher of his time—which cut only twelve pounds of wool to a sheep cutting thirty-six and three-quarters pounds of wool, but with folds and wrinkles very much developed. The illustrations herewith show most clearly the type of sheep which produced the twelve-pound fleece, and its gradual evolution towards the type producing a thirty-six-pound fleece. There has of late years been a great controversy on the subject of folds and wrinkles and the outcome of the discussion is that folds are necessary to and consequent upon dense fleeces. The photographs herewith reproduced most strikingly support this conclusion, and the fact that the photographs of three of the rams mentioned in the line of pedi-

gree are not obtainable does not weaken the force of the argument, though it robs it of a small amount of inter-

ram mentioned in Patron II's pedigree was bred at Belle Vue, entirely from Belle Vue blood, and it is a wonderful tribute to the skill and judgment of the late Mr. James Gibson. The series of photos is practically a story without words. They show how the ingenuity of man can change the whole appearance of an animal, and make it two or three times its original commercial value.

It was not many years after the late Mr. Gibson had established the Belle Vue stud that the ram Sir Thomas (known as Old Sir Thomas) brought the stud first into the public eye. He was the most notable sheep of his time, and was a successful prize winner. He was lambled in 1868, and the best fleece he cut for twelve months' growth was twelve pounds. He was sold in 1874 for 680 guineas, at that time the highest price ever paid for a Merino ram. The photo shows this old ram to be a very plain type of sheep, with no neck, arms and thighs as are known at the present day. However, he was a crack sheep of his time, and Mr. Gibson used him heavily in his flock. He sired amongst other notable rams Sir Thomas II, who was lambled in 1872. It is important to note that this ram cut fourteen pounds of wool as against Old Sir Thomas's twelve pounds. It is also important to note that with this increase of two pounds in weight came indications of folds on neck and front. The folds were small but still they were there. Sir Thomas II was sold in 1880 for 604 guineas. In his turn he got Golden Tom, who was lambled in 1878, and here we notice the weight of fleece has gone up to seventeen pounds. A glance at the picture of Golden Tom also shows that



OLD SIR THOMAS. Lambled 1868—Sold for \$3500—Sheared 12 lbs.



SIR THOMAS II. Lambled 1872—Sold for \$3000—Sheared 14 lbs.

sold in 1900 for 1,000 guineas. It also is most interesting to note that every

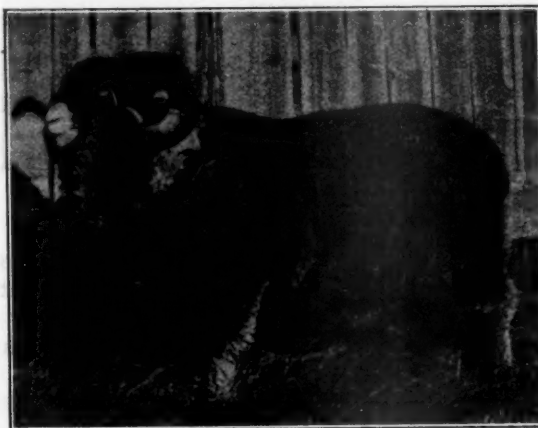


GOLDEN TOM. Lambd 1878—Sold for \$2500—Sheared 17 lbs.

with the increase of weight of fleece on, and President amongst the the neck folds and front are even more host of great rams he sired, got strikingly developed. He was sold in 1882 for 500 guineas. The next two rams in Patron II's pedigree, Treasurer and Golden Horn, were unfortunately never photographed, but the steady improvement as regards weight of fleece still went on. Treasurer was by Golden Tom, and was lambed in 1880. He cut eighteen pounds of wool, and was sold in 1883 for 300 guineas. Golden Horn was by Treasurer. He was lambed in 1886, and was sold in 1892 for 630 guineas, and his weight of fleece was twenty pounds. He got Golden Horn II, who was lambed in 1886, and who cut twenty-six pounds of wool. Thus in fourteen years Mr. Gibson had raised the weight of fleece from twelve pounds to twenty-six pounds, and by the time Golden Horn II was reached it will be noticed that quite a different type of Merino had become evolved. The folds on neck and head had become very pronounced. Quite a big front had been developed, and small folds had come behind the shoulder. Golden Horn II was destined to sire President, one of the finest Merino rams ever seen in Australia. He was lambed in 1890, and though he only cut twenty-three pounds of wool, he had it most beautifully put on. His general symmetry and bearing were so perfect, and his fleece was so evenly put on that Presi-

den became a household word amongst sheep men all over Australia, and he sold in 1896 for 1,600 guineas — the highest price then paid for a Merino ram. A glance at President's well known photo will show how bold the neck folds and front had become as a result of this continuous effort to improve the weight and character of the fleece.

The progress still went



GOLDEN HORN II. Lambd 1886—Sold for \$3200—Sheared 26 lbs.

President II in 1895. This ram was never sold but a glance at his picture will show the folds very much more pronounced than on any of the preceding rams, and he topped them all as regards weight of fleece, as he cut twenty-seven pounds. In 1898 he got President III, who, unfortunately, was never photographed, neither was he ever sold. He cut thirty pounds of wool. In 1900 he sired Patron, a ram which reached the zenith in line as far as weight of fleece is concerned. He cut thirty-six and three-quarter pounds, and behold

his body is covered with heavy folds, and his front thighs are likewise. He is a very different looking sheep to his great progenitor Sir Thomas. The series of photographs show that the great change in type was not evolved suddenly, but by the gradual process of breeding for density and quality. Patron was sold in 1907 for 1,000 guineas.

While on this subject of folds and wrinkles it should be stated that it is now considered that the limit of that development was overreached. Not that any stud breeder would allow his sheep to get too plain, because when hovering in the vicinity of density, folds and wrinkles are sure to show

up. But a great change has come over the sheep breeding community as a result of the excessive rush on wrinkly sheep. It was found that though these sheep scooped the pool at shows they did not produce the hardy constituted sheep that are required to hustle for a living in an ordinary Australian season. While the wrinkly craze was on there occurred several very adverse seasons, and in nearly every case it was found that the wrinkly sheep were the first to succumb to the hardships, especially when they had any long distances to walk for grass

or water.

The general opinion now is that there is a limit as to the fleece



PRESIDENT. Lambd 1890—Sold for \$8000—Sheared 23 lbs.

that stud rams should be asked to carry, and our leading breeders consider that a fleece of thirty pounds for twelve months' growth is quite enough if constitution is to be maintained. The aim now therefore, is to breed a type of sheep with no body wrinkles, but with well developed neck folds, a well defined tail, and a deep but not folded flank and thigh. The body wrinkles have been proven to be a great drawback to the sheep as a wool bearing animal.



PRESIDENT II. Lambd 1895—Sheared 27 lbs.

WHAT AUSTRALIAN WOOL PREPARATION MEANS

The Bradford, England, Wool Record of recent date contains a sensible statement regarding the Australian system of wool preparation. A careful reading of this statement must convince any one that most of the benefits derived from wool preparation are of an educational rather than a financial nature. The statement follows:

"While wandering round the wool warehouses in London, it has struck the writer that there is a great variety in the ideas held by pastoralists as to how far classing can be carried with advantage.

"Among the small men there is no doubt it does not pay to do it too finely, and some of the big clips can be reproached for similar reasons. We have noticed one or two large Australian clips which would have been better for the grower if they had not been so minutely classed, for it pays better to have several large lots which can be offered in the 'straight' room, than many smaller lots which, in the 'star sale room,' sometimes command less competition. The chief point

of all classing to owners is to secure a bigger return for their wool. To this end the classing must be done so as to mean less work for the sorter, thus enabling the buyer to pay more money for the material, seeing that it will cost him less to sort, and also there is the 'good will.' We think we are not far wrong in saying that the get up and classing of many famous Colonial clips is often worth to the owners 1 cent to 2 cents per pound, the reason for this being that the clip has been so well and regularly classed for years that buyers have got to know the wool and know exactly how reliable it is. It follows from this, then, that classing defeats its own object if it is not honestly done, and the cause of these remarks was several hundred bales of New Zealand crossbreds which were offered

one day this year. The wools in question constituted big lines, but were not station clips. They were recased wools, but as casing is supposed to be classing carried a stage further, the remarks are opposite. It was shameful to cut a bale open and find that fleeces in the middle of the bale were four per cent worse in condition than those at the top. In one gangway of wool every bale was opened and out of each one a fair amount of medium crossbred wool was hanging which looked as if it would give a clean yield of at least 76 per cent. Probably most who passed it would have put down that figure, had it not been for one bale which was cut open and some of the center fleeces pulled out. They constituted a big fly in the ointment. Thousands of bales still come to hand that are so got up, and those who case that wool may think themselves shrewd, but it seems very much like picking up a shilling and missing a sovereign. 'Topping' bales at the best is little less than fraud.

"The few bales of American wool catalogued in London fare none too well as a rule. Whatever else they may fall short in, the American growers can get plenty of quality into their fine wools. It can also be said that the bags (they can hardly be called bales) are packed the same throughout, but all the fleeces were tied with string, all of them had all the skirtings adhering just as when the fleece was shorn, and all of them were very dirty.

"A considerable number of bales of Cape wools were offered, both scoured and greasy, on one occasion, and to those who had not valued these carefully, they made prices distinctly below their apparent value, but a well experienced buyer assured the writer that they made their full worth for such lots as were sold, the majority of them being withdrawn. The owners of these wools have a reputation for putting the best on the top, and no buyer values them on the strength of the first handful he pulls out.

"Some years ago, when the brainy man who thought of this fraud first tried it, no doubt it paid him, but today buyers know it as well as the men who work it, and it pays no longer."



PATRON Lambd 1900—Sold for \$3000—Sheared 36½ lbs.

ANOTHER GOOD MAN QUILTS.

I am entirely out of the sheep business and have had no sheep since May, 1913. I was continuously in the business for a little more than forty years, and during all those years did more than my part in exterminating predatory animals, raising the standard of sheep, improving methods of packing wool, helping shape sheep legislation and doing a good part generally for the sheep business. I stayed with the business through many lean years. I have sold better ewes for \$1.50 than can be bought for \$8.00. I have sold good lambs at less than fifty cents and have sold wool in San Francisco for 4½ cents after paying 1½ cents expenses. I have sold two and three-year-old wethers with the wool on in the fall at \$1.50 and have driven such wethers 200 miles and delivered them at \$1.75.

L. L. McCOY, California.

DOCKING LAMBS WITH HOT IRONS

In the April number of the National Wool Grower, page 27, you published a photograph of a chisel for docking lambs as well as photographs showing how it was used. For several years our firm has been losing far too many lambs from docking, and we were trying to find some better method when we happened to read your article. We at once sent \$5.00 to Mr. Fred A. Ellenwood, Red Bluff, California, and had him send us three of these irons. When they arrived, the old sheepmen in our community and some of our employees, insisted that it was impracticable to dock lambs with a hot iron, and they rather scoffed at the idea of doing it that way. However, we went right along and docked about 6,000 lambs with this iron and did not lose a single lamb, whereas in other years we have lost from 20 to 40 out of every band as well as giving all the lambs a serious setback. These lambs that were docked with the hot iron never stopped growing and in fact the docked lambs were playing in the corral,

while others were being docked. I figure that this iron saved us about 25 lambs to each band and these lambs sold so as to net us \$5.85 per head, so you can see we have saved quite an item. In addition the lambs after docking with the hot iron are not stunted and do not get sick, so that it may be they gained a little more weight than would have been the case had we docked them with the knife. I believe lambs can be docked with the hot iron just as rapidly as they can with a knife. At least we docked with the iron 685 lambs one night after six o'clock, and by actual test we docked 35 lambs in 35 minutes.

One of our neighbors was docking lambs at the same time, and out of about 600 that he docked one day with the knife, 13 of them died right in the corral, and I do not know how many died later on the range. This man borrowed our iron and finished docking his lambs without losing one. In fact several of our neighbors who had rather laughed at the idea of docking lambs with a hot iron, borrowed our iron and docked their lambs. After docking 6000 lambs with this iron this year, I can promise you that we will never use the knife for docking again. I think you should have Mr. Ellenwood over to the National Wool Growers' convention to discuss this subject of docking lambs for the loss from docking is far greater than many sheepmen believe.

EDWIN BLANEY, Salt Lake City.

FROM WENATCHEE, WASH.

There is an excellent summer range in Ferry, Okanogan, and Chelan counties, all of which are adjacent to Wenatchee. The range, generally speaking, is very good, and close to 150,000 sheep are ranged in these counties each summer, the Forest Department permitting the sheep to remain on the reserve from June first to October first. Many lambs are shipped from here to Chicago averaging in weight from 75 pounds to 85 pounds. There are no sheep on feed and very few sheep wintering in this immediate vicinity. They

all winter some 50 to 100 miles south of us in Grant and Kittitas counties where there is very fair open range most all winter. In this county we have considerable snow and the price of hay ranges from \$8.50 to \$15.00 per ton. I do not consider the weather and range conditions are as good for a heavy wool crop as last year as the fall feeding grounds are very short on feed and sheep were not kept in condition as they were last year, and the weather has been very stormy for two weeks past, and we consider that winter has really set in.

We enjoy the National Wool Grower and think there is a great deal of good, wholesome news contained therein. Every man interested in the sheep business should subscribe for it. Our knowledge of the sheep business is somewhat limited, but any information you desire from our section I will give you the best I have.

W. H. Little, Washington.

GOOD WYOMING LAMBS.

A Casper, Wyoming, sheepman recently said to a representative of this paper: "We have had the best year around Casper, Wyoming, that I have ever known, and I have been in the sheep business for twenty-two years. Most of our lambs went to Fort Collins feeders at around 6 cents per pound, and they averaged about eight pounds heavier than ever before. Ordinarily our feeder lambs around here weigh from 60 to 62 pounds, but this year the bands averaged from 64 to 76 pounds with an average for all of them of about 70 pounds so you can look for some heavy lambs out of the Colorado feed lots when they start to move.

Around Casper, Wyoming, there has been no end of rain, and in many cases the lambs that never went to the mountains at all outweighed those that did. Our lambs are going into winter in good fix, so if we have average conditions, we will get through all right.

Natrona county, in which Casper is located, carried in 1905 about 700,000 sheep, but the assessor's returns for 1915 show less than half that number in the county."

Range Grasses

By ARTHUR W. SAMPSON

GRASSES, the most valuable and productive of any one natural family of plants, are of higher economic value today than ever before. This value is due to necessity. The material employed in the manufacture of an article is neither counted nor economically used as long as there is an unlimited supply, but the value and economy of use of the material alters as soon as there is an apparent shortage. Just so in the case of the forage crop.

Lands available for grazing purposes have been greatly curtailed as a result of success achieved in dry land farming and in the development of irrigation projects. As evidence of shrinkage of range lands it may be stated that in January, 1907, there were in the United States approximately 51,000,000 head of cattle valued at \$881,500,000 while in January, 1914, there were but 38,500,000 head valued at \$1,216,000,000. This shows a decrease of 12,500,000 head and an increase in value of \$335,000,000. Statistics in the case of sheep show similar figures.

Instead of the annual forage stand being utilized only on readily accessible and choice ranges as was the former practice, it is now, as a general thing, grazed from the lowest elevations to the highest accessible mountain tops. Trails and water, especially on National Forests, have in many places been developed in order to render the forage available on every productive glade.

Cost of meat production and net returns to the stockman, as the reader knows, varies widely in different localities. Eliminating, however, possible advantages and disadvantages of topographic features, etc., conditions over which man has no control, the matter of character of forage and maintenance of the forage resource play a highly important part in the cost of meat production. Just as small portions of France will grow grapes of a flavor to produce the choicest wines; portions

of Virginia, tobacco of a flavor and quality all its own, so certain lands in the West produce grasses of unusual palatability and of growing and fattening qualities. Peculiarly enough, a grass in one locality may be juicy, tender and highly relished during most or all of the grazing season, while in

range grasses in the locality in which one's range operations are being conducted. But it is not necessary to be a full-fledged botanist in order to recognize the important grasses. It is not even necessary to know grasses by their Latin names, though this is helpful in referring to them. The writer hopes to show by photographs how the main groups or genera may be recognized. Pictured, as they are, life size, or nearly so, he who runs may read, whereas if technical descriptions of the various grasses were given in place of the pictorial description our minds would most likely wander off to the "Land of Nod."

Among the many grasses occurring on the range are a few groups that stand out as especially worthy of attention. Each group includes several species or kinds, some of which are highly important as forage throughout the year, while others are valuable only early in the season and seriously objectionable later in the year; some are widely distributed and of frequent occurrence and fairly abundant; others respond readily to cultivation and are valuable both as range and hay grasses. It is the intention of this series of articles to point out the important characteristics and economic facts pertinent to grasses as range plants.

Grasses and Their Uses.

The botanical characteristics of a true grass were pointed out in a previous article of this periodical. It will only be necessary to say, therefore, that all herbaceous plants with narrow leaves are not grasses. Stockmen often speak of grass as any small herbaceous plant, such as sedge, rush, lily and lily allies. Again, we often forget that such conspicuous plants as corn, wheat, oats, rice, and other cereals—plants which have been brought to a superior degree of excellence by man, are true grasses.

Of all flowering plants, grasses as a family, are the most widely distribut-



Figure 1—SLENDER WHEAT GRASS. THIS SPECIES HAS GIVEN BEST RESULTS UNDER CULTIVATION THAN ANY OF THE OTHER WHEAT GRASSES.

a different locality the same grass may produce a rank growth of succulent character and supply herbage of relatively low value.

In judiciously dealing with practical range problems it is important that one should recognize the valuable

ed and useful. They are grown for medicinal purposes, for food, directly and indirectly, for textile purposes, in making ropes, baskets, mats, paper, etc., and are put to many other uses. In the tropics bamboo, a grass which grows taller than some of our forest trees, furnishes material with which to construct houses and is used for food, clothing, cups, buckets, for the manufacture of paper, and furnish the chief material used in the manufacture of a catalogue of other useful and ornamental articles.

THE WHEAT GRASSES.

As the name implies, wheat grasses (less commonly and correctly called "blue stem") resemble cultivated wheat and are correctly designated by the scientific name *Agropyron*. There are about fifty different species or kinds distributed throughout the world. In our Western States about twenty kinds occur, all of which are perennial, i. e., grow year after year from the same root.

Wheat grasses are closely related to cultivated wheat and barley, and often have bearded seed heads. The growth is erect, height usually from 1 to 3 feet. The stems are leafy and long and the seed heads narrow. The character of the heads is well shown in the accompanying photographs.

While many species are not found in abundance, nearly all are valuable as range plants. They grow along streams and on the drier hill sides where the herbage is readily accessible to grazing animals. While tall, they are not particularly coarse and the large seed heads, as well as herbage, are eaten with avidity by all classes of stock. Some kinds are sod-forming while others are distinctly bunch grasses. The latter are the more common in our Western States.

In many localities stockmen depend very largely, in some places throughout the entire year, upon the grazing of wheat grasses to grow and fatten their stock. These grasses are among the most important if, indeed, not of first rank among grasses, for foraging purposes and for hay. It is believed that no grasses of a single genus (a

related group of plants) are eaten more eagerly and produce better results to all classes of stock than do wheat grasses. Since the herbage cures on the ground without cutting nearly as perfectly as well stacked hay, though, of course, hay is more aromatic, the value of these grasses as winter feed is exceptionally high. The most valuable, when occurring in sufficient quantity, afford palatable winter forage which has strength or food quali-



Figure 2—BLUE BUNCH WHEAT GRASS HIGHLY NUTRITIOUS AND PALATABLE.

ties enough to produce the necessary heat and nutrients to maintain grazing animals without loss of weight during inclement weather. Not infrequently, stock go directly to the butcher from wheat grass ranges.

SLENDER WHEAT-GRASS.

(*Agropyron Tenerum*)

A bunch grass having slender stems $1\frac{1}{2}$ to 3 feet long; flower heads, narrow, slender, green in color, from 3

to 6 inches long. The leaves are numerous, only slightly rough, and as shown in Fig 1, originate mainly from the crown or base of the plant.

Few grasses enjoy the wide distribution that does this one. It grows wild from New Mexico and Southern California to Washington and British Columbia and eastward to New Hampshire and Labrador.

Growth Requirements.

Slender wheat-grass makes its best growth in well drained meadow lands in fairly rich soils. Sandy soils, especially along river bottoms, often support a dense stand of the grass in question. In dry mountain meadows it makes a luxuriant growth. Not infrequently, however, it grows surprisingly densely in yellow pine and lodge pole pine forests and even on some sagebrush areas it furnishes considerable herbage.

The most luxurious growth is made between about 3,000 and 8,000 feet elevation, though the writer has studied it at 10,000 feet and has seen it yield relatively well at such an elevation under unusually favorable soil and moisture conditions. At such heights, however, the seed crop seldom makes satisfactory development and therefore lacks in germination strength.

In the West the seed begins to ripen as early as July in the lower elevations and by September maturity is reached on all types of range, unless, of course, climatic conditions are unfavorable to seed formation. The well-developed seeds drop shortly after maturity, but germination does not take place until in the following spring.

Forage Value.

As forage it is generally considered to be better suited to cattle and horses than to sheep, though all classes of stock relish it highly when tender. The herbage has a tendency, however, to harden and become somewhat harsh with the advance of the season and sheep graze it less closely at such times than the more succulent plants. Cattle and horses, however, graze the herbage throughout the year and do unusually well upon it. Substantial, solid fat is made on this grass.

The seeds being large like those of other wheat-grasses, better reproduction is obtained when the range is grazed after seed maturity as the seed crop is then worked into the ground by stock and is ready for germination promptly in the spring. Sheep are especially effective in working the seed into the ground.

Of all wheat-grasses, this species has been introduced into cultivation more than any other and easily leads as a hay plant. It responds readily to cultivation and produces excellent results when lightly irrigated or where there is a fair amount of rainfall. Fortunately too, exceptionally good results are obtained on saline or alkaline soils—a soil type very common to the vast plains and basins in various parts of the West where few forage plants grow successfully. Where seed of this grass has been sown on well prepared lands of suitable moisture conditions, the yield has been equal to that of timothy.

BLUE BUNCH WHEAT-GRASS.

(*Agropyron spicatum*.)

Description and Distribution.

A rigid upright, perennial, native grass, 1½ to 3 feet tall. Leaves, smooth, narrow, usually less than 6 inches long. The flower heads are long and slender and the plant strongly resembles the common quack grass of the Eastern States. It differs, however, from the quack grass in having a bluish color from whence it gets the common name. On account of the bluish cast of the foliage it is sometimes called "blue stem" but grasses correctly called by that name belong to the genus *Andropogon* and are quite distinct from the wheat-grasses.

This grass is found from British Columbia, Eastern Washington and Eastern Oregon, Idaho, and Montana, on south to New Mexico. In Montana and adjoining states, it furnishes a considerable amount of native forage and pasture, and is regarded as one of the most important forage plants.

Growth Requirements.

Excellent growth is made in well-drained meadows, in sandy, and in clay loam soils. But it also does well

in the arid lands. In Central Texas, for example, it grows luxuriantly and withstands the periodic droughts to which that section of the country is periodically subjected. In the mountain range lands blue bunch wheat-grass is found on the drier slopes, often on rocky thin soils, usually between 4,000 and 8,000 feet elevation. The plant is not shade enduring, nor does it occur in wet soils. The seed habits

ed upon to furnish the winter feed. So nutritious and "strong" is the herbage that numerous trials have been made to establish this plant on hay meadows. It takes kindly to cultivation in localities where it occurs naturally and there is no great difficulty in obtaining a stand. The yield of hay is not as heavy as that of slender wheat-grass or of timothy, but the herbage is finer and there is less waste. Owing to the fineness of the leaves, they are eaten with fully as much relish by sheep as by horses and cattle except, of course, when the growth is extremely rank and the older decayed leaves are mingled with the green ones.

WESTERN WHEAT-GRASS.

(*Agropyron smithii*.)

Description and Distribution.

A rigid upright grass 1 to 3 feet high, having rather thick, stiff, upright leaves about 6 inches in length. The whole plant is of a bluish color and therefore, is often called blue-stem. But this name, as previously pointed out, belongs properly to a very different grass common to the low altitudes of Wyoming, Nebraska and other prairie states. Among other characteristics, this grass is distinguished from its relatives in having strikingly flattened seed heads.

It is one of the most widely distributed of the Western wheat-grasses and is well represented in practically all of our Western range states—thus its common name.

Growth Requirements.

Western wheat-grass grows in a variety of soils and withstands drought very well indeed. Occurring as it does, both on the plains, bottom lands, and our mountain plateaus, its adaptation to a variety of soils and climatic conditions, is evident. Further, it is one of the most common of its relatives on alkaline soils and on bench of high elevation.

Forage Value.

Both as pasture and hay this grass has a high reputation. Few grasses are more relished than the one in question, all classes of stock considered. In the case of sheep, it furnishes ex-

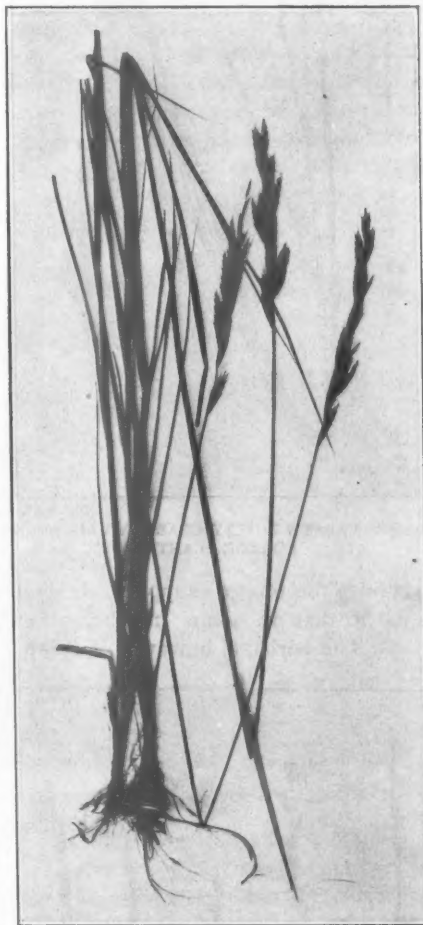


Figure 3—WESTERN WHEAT GRASS RELISHED BY ALL CLASSES OF LIVESTOCK.

are strong and the plant reproduces well if not grazed too closely year after year.

Forage Value.

All things considered, this is one of the most important of the wheat grasses. In Montana and neighboring states where it occurs in unusual abundance, it affords forage of the highest quality and is largely depend-

cellent forage during the lambing period, during the early summer and again in the fall and winter. Horses and cattle graze it with avidity at all times of the year. In several localities the native crop is cut for hay and while it does not yield as heavy as many cultivated grasses the nutritive value of the hay is held in high repute.

Chemical analysis shows that it contains more nutriment, pound for pound, than timothy and Kentucky blue-grass. It is believed that Western wheat-grass will be rather extensively introduced into cultivation when conditions are favorable.

VASEY'S WHEAT-GRASS.

(*Agropyron vaseyi*)

Description and Distribution.

A perennial bunchgrass, 1 to 3 feet high, with rather stout green stems. The leaves are smooth, light green and inwardly rolled indicating that the plant is drought resistant and protected from excessive evaporation. It bears resemblance to blue bunch wheat grass, previously described, but, as pictured, the leaves are shorter and narrower and the seed head is less elongated.

The distribution, at least of economic importance, is confined to the territory from Washington east to Alberta, thence into Montana and south into Northeastern California, Nevada, Utah, and Colorado. It is thus seen that this plant does not enjoy the same wide distribution that do the species described yet all are commonly found in the same association where the species in question naturally occurs.

Growth Requirements.

Like blue bunch wheat-grass, which it closely resembles, Vasey's wheat-grass occupies soils which normally contain a small amount of water. And like blue bunch wheat-grass it is confined to rather thin soils and to medium elevations. Seldom does this grass occur conspicuously at elevations greatly to exceed 8,000 feet. The best development is made at about half that elevation.

Forage Value.

Vasey's wheat-grass does not gen-

erally form a very dense stand and since its distribution is more restricted and the climatic requirements more

out, the stand is not usually dense enough to afford a large hay yield. For this reason the plant has not been extensively studied under cultural conditions.

Other Important Wheat-Grasses.

Of the numerous wheat-grasses occurring in the West, there are others which deserve mention. Bearded wheat-grass (*Agropyron caninum*) is one with which the stockman should become acquainted as it furnishes first class forage to all classes of stock, while the seed heads are provided with more beards than most species, they are not particularly stiff and in all probability never cause the "big jaw" as do some of the squirrel tail and fox tail grasses. Care should be taken, therefore, to avoid confusion of this species with some of the undesirable kinds mentioned.

The species discussed may readily be distinguished by noting the difference in form and structure of their seed heads. These are pictured in Fig. 5.

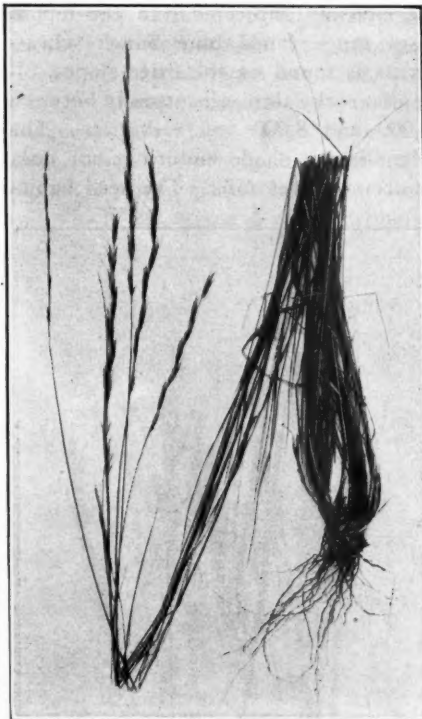


Figure 4—VASEY'S WHEAT GRASS, A VALUABLE FORAGE PLANT.

erecting, the forage supplied is not equal to that of some of the other kinds. The herbage, however, is relish-

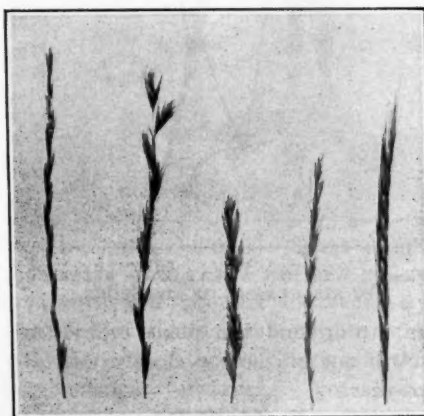


Figure 5 from left to right—SLENDER WHEAT GRASS; BLUE BUNCH WHEAT GRASS; WESTERN WHEAT GRASS; VASEY'S WHEAT GRASS; BEARDED WHEAT GRASS.

ed by all classes of stock both when green and when air-cured. It is seldom made into hay since, as pointed

MARKET CONFERENCE.

On November 15 and 16, a conference was held in Chicago to determine what methods might be employed to bring about more stability in the live-stock market and thus eliminate the disastrous fluctuation. This conference was called at the suggestion of the Secretary of Agriculture and was attended by about 150 delegates, representing the railroads, stock yards, packers, feed yards and livestock producers. Among other present at the conference was a representative of the National Wool Growers' Association. All phases of the market situation were discussed pro and con, and it is hoped that some good may result therefrom. However, it must be recalled that the packer is in complete control of the situation and can establish any reform he desires without a conference. One notable feature of this conference was that the Commission had not one word to say against the packer; if anything was wrong the railroads or producers were to blame.

The Boston Wool Market

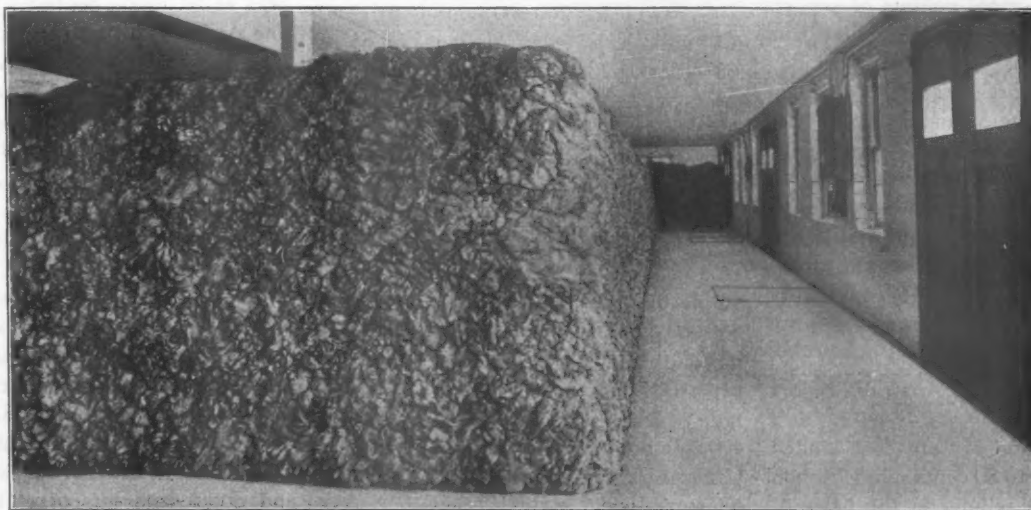
BY OUR BOSTON CORRESPONDENT

THE little "boom" in the wool market started in the closing days of October has been very much in evidence all through November. Much wool has changed hands, and though the aggregate sales have still contained a very large volume of foreign wools of all grades, more domestic wool has changed hands than in any month since the beginning of 1915. There has been much encouragement in this for the holders of Territory wools especially, and wool men are now predicting that when the annual figures of stocks of unsold wool are made up January 1, there will be less domestic wool on

uation is altogether different than they expected to find it, and it is an open question whether they have not overstayed the market, in their endeavor to get the last possible fraction off of the selling price of wool. Recent events show that they have "met with a change of heart," the buying of the past few weeks having been due to the needs of big mills as well as the smaller ones. In fact, this is one of the encouraging features of the present situation, that all classes of manufacturers have been buying, as well as that the demand has included all grades and kinds of wool.

ported from Australia, the buyers are hopeful that they will be able to get out at a profit.

Considerable Territory wool has been sold lately in the original bags, which shows that manufacturers were really in earnest in regard to taking up the remainder of the desirable new clip wools. When the season first opened most of the demand was for medium wools, of various grades, but lately the demand has been on the fine edge, and medium grades are somewhat neglected. This is possibly due in large measure to approaching free importation of New Zealand crossbreds. With prices



GRADED WOOL IN THE NATIONAL WOOL WAREHOUSE, CHICAGO, ILLINOIS.

hand than at the beginning of 1915. Whether this proves to be so or not, it is true that the position of domestic wool of all grades has radically changed during the past six weeks, and the market as a whole is in a more healthy condition than seen for a long time.

Two factors have been potent in bringing about this improved tone,—the excellent condition of the men's wear goods market, and the extreme firmness and the high prices ruling in all foreign primary markets. Some of the leading wool manufacturers have freely acknowledged lately that the sit-

Perhaps one of the most notable developments of the month was the buying movement in Ohio. Eastern buyers went into that state and picked up a large amount of wool, possibly well up to 2,000,000 pounds, mainly fine wools, with the clips running to delaine. This buying begun on a basis of 27 cents f. o. b. cars, or possibly a fraction less. This was quickly advanced to 28 and 28½ cents, and before the movement was over 29 to 30 cents had been paid to the farmer. At the latter figure, the price paid was above the parity of the Boston market, but with the steady enhancement of values re-

advancing sharply in that Colony, and South American crossbreds selling at extremely high prices, it is an open question whether a good market is not again due for medium Territory and fleece wools of domestic origin. Apparently there is no longer a possibility that any cheap wool is to be obtained from abroad. Moreover, if there were any such possibility, it would be difficult of realization while American buyers were bidding the market up on themselves.

It now appears that the low level of the clip was touched in the period of depression noted early in October, and

that henceforth, advancing values and greater firmness may be looked for. This has already been realized abroad, a fact that in the end can not fail to have a stimulating effect on all domestic wools. London will open another series of wool sales December 7, with offerings of 102,000 bales. It is not expected that any weakness will be developed in view of the firmness in Australia and New Zealand. Encouraged by the statement that free exportations to this country would be allowed from New Zealand, American buyers went in and contracted for or bought outright about 50,000 bales of wool, therefore, there was a feeling of consternation in wool circles here over the statement that the Minister of Customs of the Dominion had announced that about a normal volume of exports would be allowed to this country, and figured that this would be about 35,000 bales. Representations were at once made to the Minister by the buyers, but after a conference between the farmers, it was announced that no definite decision had been made. Later, it was announced that applications for licenses to ship wool bought at the Wellington sale would be favorably considered, and now the trade is more hopeful of getting the wool out.

Latest advices from Australia report good shafty combing wools selling at a figure that means a clean cost landed in Boston of 78 to 80 cents, with French combing wools selling on the basis of 74 cents clean landed cost, while top-making wools show a cost of 66 to 68 cents, or something like 78 cents in the tops. South American advices indicate a little recession in value since the opening of the New Zealand season, but values are still considered extremely high. Latest quotations are 36 to 40 cents for Buenos Aires wools, 43 to 47 cents for Montevideo, and 45 cents for Concordia wools. Shipments of the early bought wools are now under way, and a few cargoes have already been landed here. At least four steamers are scheduled to sail for Boston direct from New Zealand during the next two months, so that there seems to be no chance for a shortage in crossbreds.

While possibly it might be said that prices here have hardly kept pace with late advances abroad, it is still true that there have been material gains in scoured values for the month. Current Quotations on Territory wools, scoured basis, are about as follows: Fine staple Territory, 72 to 75 cents; half-blood staple, 70 to 72 cents; three-eighths-blood staple, 68 to 70 cents; quarter-blood staple, 65 to 67 cents; fine clothing, 68 to 70 cents; fine medium clothing, 65 to 67 cents.

Actual reported sales of Territories for the month have included the following: 10,000 pounds fine staple Montana at 26 to 27 cents, or 72 cents clean; 150,000 pounds fine Territory at 67 to 68 cents clean; 100,000 pounds original Montana at 28 to 30 cents, or 70 cents clean; 200,000 pounds original Colorado at 25½ to 26 cents, or 63 to 65 cents clean; 175,000 pounds Territory at private terms; 500,000 New Mexico, Arizona, etc., in the original bags at private terms; 250,000 pounds Original Colorado and New Mexico at 25 to 26 cents, or 66 to 67 cents clean; 300,000 pounds original Montana at 25 to 31 cents, or 70 cents clean; a lot of staple Oregon at 68 to 70 cents clean; 500,000 pounds Territory in the original bags and 250,000 pounds graded at private terms; 300 bags original Montana at 28 cents, or 70 to 72 cents clean; 400,000 pounds fine and fine medium Utah at 22 cents; 15,000 pounds Utah quarter-blood at 32 cents; 25,000 pounds half-blood Territory at 27½ cents; 200,000 pounds original Colorado and New Mexico at 24 to 27 cents, or 65 to 66 cents clean; 200 bags Montana half-blood at 29 cents; 500 bags original Wyoming at 68 to 69 cents clean; 300,000 pounds medium Territory at 65 to 67 cents clean; 250,000 pounds original Colorado at 65 to 66 cents clean; 500,000 pounds graded fine and fine medium Utah at 22 cents, or 68 to 70 cents clean; 600 bags original Territory at 21 to 24 cents, or 68 cents clean; 110,000 pounds graded Territory and 85,000 pounds original at private terms; and good-sized lots of half-blood Montana at 70 to 72 cents clean, and staple Montana at 72 cents and upwards clean.

Scoured wools have been more active than at any time since the first of the year. Several thousand bags fine and fine medium wool have changed hands, while there has also been a good movement in stained and low sorts. Best fine scoured Territory has advanced to 66 to 68 cents, while fine medium is quoted at 65 to 67 cents, though lower figures prevailed early in the month. Pulled wools have been more active, the New York pullers having sold up their November pullings of B supers at 49 to 51 cents in the grease, or 60 to 62 cents clean. Other sales of Eastern wools are noted, but Chicago wools are neglected, as they are not attractive in quality or condition. At the end of the month, quotations are 62 to 63 cents for Eastern B supers, with A supers at 62 to 65 cents and extras and fine A supers at 67 to 70 cents. About 500 bags Eastern fine A supers changed hands at 67 cents. Chicago pullings are quoted at 58 to 60 cents, with A supers at about the same figure.

Texas wools are cleaning up well, though quotations show little change. Sales for the month have included 40,000 pounds year's growth at 68 cents clean; 150,000 pounds twelve months' at 26½ to 27 cents, or 67 to 68 cents; 150,000 pounds of the same at 26½ cents, or 67 to 68 cents clean; 150,000 pounds eight-months' at 58 to 62 cents clean; 100,000 pounds twelve months' at 26 to 27½ cents, or 68 cents clean; and good-sized lots of eighth-months' at 23 to 24 cents, or 60 to 62 cents clean, and twelve-months' at 68 cents clean. Some of the accumulations of new fall wools have been sold to Eastern parties at 19 to 20 cents in the grease, figured to cost 55 to 57 cents clean.

Dealers report a fair demand for Ohio fleeces, with more selling than in the previous month. Actual sales have included 50,000 pounds half-blood baby combing at 33 cents, 25,000 pounds three-eighths-blood baby combing at 34 cents, and a similar lot at 33 cents; 50,000 pounds quarter-blood combing at 36½ cents, 300,000 pounds various grades at private terms, three-eighths-blood combing at 37 cents, half-blood combing at 34 to 35 cents, 100,000

pounds various grades at private terms, 25,000 pounds fine unwashed clothing at 26 cents, 250,000 pounds, mainly delaine wool, at private terms; good-sized lots of fine unwashed delaine at 30½ cents, fine unwashed clothing at 27½ cents and half-blood combing at 34 cents. The transfer is noted of a large lot of Indiana half-blood at 30 cents.

Current quotations on Ohio fleeces are: Fine washed delaine, 35 to 36 cents; XX and above, 32 to 33 cents; X wool, 30 to 31 cents; fine unwashed delaine, 30 to 31 cents; fine unwashed clothing, 26 to 27½ cents; half-blood combing, 34 to 36 cents; three-eighths-blood combing, 37 to 38 cents; quarter-blood combing, 37 to 37½ cents; half-blood clothing, 30 to 32 cents; three-eighths-blood clothing, 33 to 34 cents.

Transfers of foreign wool have been somewhat restricted by the growing scarcity of shafty combing Merinos, and the non-arrival of the new wools promptly from Australia owing to the interruption of traffic through the Canal. Recent transfers have been on the basis of 73 to 75 cents for shafty combing Australians, 72 to 73 cents for average combing and 65 to 68 cents for short combing wools. Greasy Capes have sold on the basis of 65 to 67 cents for combing in the grease, with scoured Capes at 59 to 60 cents and scoured Australians at 59 to 63 cents. Liberal sales to arrive are noted of the new South American crossbreds at 38 to 43 cents, according to grade.

Total receipts of wool at Boston for the month of November were 24,050,866 pounds, including 10,446,782 pounds domestic and 13,604,084 pounds foreign. This compares with 8,611,767 pounds for November, 1914, of which 6,966,382 pounds were domestic and 1,645,385 pounds were foreign.

From January 1 to November 30, 1915, total receipts were 392,592,113 pounds, including 172,162,142 pounds domestic and 220,429,971 pounds foreign. For the same period in 1914, total receipts were 326,063,636 pounds, of which 182,506,879 pounds were domestic and 143,556,757 pounds foreign.

Total shipments of wool for the month of November were 24,143,363 pounds, compared with 17,800,953 pounds for the same month last year. From January 1 to November 30, 1915, total shipments were 246,666,218 pounds, compared with 251,957,376 pounds for the same period in 1914.

GOVERNMENT HUNTERS DOING GOOD WORK

The government hunters in the state of Nevada, working under the appropriation secured by the National Wool Growers Association for the destruction of coyotes and other predatory wild animals reports that during the month of November they killed



IN A FOREST SERVICE TRAP

440 coyotes. This is a very gratifying report and we commend it to the hundreds of woolgrowers in Nevada who have never paid a dollar of dues to the National Wool Growers Association.

In a previous article we have urgently petitioned sheepmen to furnish these hunters with every possible accommodation, including bait and lodging. We are gratified to learn a great many sheepmen have furnished these hunters with these accommodations, but unfortunately now and then one is found who follows the almighty dollar so close that he generally goes blind

in attempting to capture it. We want to again urge all woolgrowers to give these government hunters every possible assistance.

MEETING UTAH WOOL GROWERS ASSOCIATION

The annual meeting of the Utah Wool Growers Association will be held in Salt Lake City, January 11 and 12. For this convention the railroads of Utah grant a rate of one and one-fifth fares for the round trip. By this arrangement Utah sheepmen can come to their state meeting and also to the National meeting at a very low cost. Several important matters come before the Utah Association meeting, and we urge every Utah sheepman to be present January 11 and 12.

FROM THE BIG HOLE BASIN, MONTANA.

In the Big Hole Basin, Montana, there are a number of flocks of sheep on feed this winter, and they are doing excellent. Our winter feed here is practically all wild hay, and it is noted as a great fat producer. This part of Montana is just being tried out the past few years to see whether it is suitable for sheep or not. It has always been a great cattle country, but never had many sheep. So far this year we have sent out some top notchers for lambs, which brought \$6.50 per hundred, and they were good enough to bring a dime more. Owing to the high price of sheep and the age of our ewes, we unloaded our entire outfit, but we are in the market for some good young ewes again.

The condition of the range in this section is very good, and we have an abundance of summer feed, water and shade, which makes the range ideal. Wild hay is selling around here at \$5 per ton in the stack.

The losses here from coyotes are practically nothing. The outlook for our wool crop is very favorable.

SHIELDS AND DOUGLAS, Wisdom, Montana.

VERY BEST FOUR PLY PAPER FLEECE TWINE VERY BEST



THE LAST WORD — IN — FLEECE TWINE



HE DEGREE OF PERFECTION WHICH HAS BEEN ATTAINED IN OUR FOUR PLY "VERYBEST" TWINE IS DUE TO THE HIGH GRADE OF THE RAW MATERIALS USED. THE EXTRA CARE TAKEN IN THE VARIOUS PROCESSES OF MANUFACTURE, THE EMPLOYMENT OF SKILLED AND EXPERIENCED WORKMEN, IN A PLANT THAT IS THOROUGHLY EQUIPPED WITH THE LATEST MACHINERY. "VERYBEST" IS RECOMMENDED BY ALL WOOL GROWERS, ASSOCIATIONS, AND BUYERS, AND IS UNDOUBTEDLY THE BEST TWINE THAT CAN BE HAD FOR THE PURPOSE.

HOW PACKED FOR SHIPMENT

250 LENGTHS, 8 $\frac{1}{4}$ FEET EACH, TIED IN A SMALL BUNDLE. EIGHT OF THE SMALL BUNDLES TIED INTO A LARGER BUNDLE CONTAINING 2,000 LENGTHS, 8 $\frac{1}{4}$ FEET EACH. FIVE OF THE LARGER BUNDLES PACKED IN A BALE FOR SHIPMENT, CONTAINING 10,000 LENGTHS, 8 $\frac{1}{4}$ FEET EACH. WEIGHT OF BALE ABOUT 220 LBS.

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November at the Sheep Markets

By J. E. POOLE

MARKETING of sheep and lambs during November was far below normal in volume, although swelled by premature liquidation. Lambs by the hundred thousand were dumped into the market hopper that would have been fed along into January or later had feed conditions been favorable. Across the northern half of the cornbelt frost seriously impaired that grain crop and lambing down corn in Iowa was anything but the success of former years. Mortality was heavy and feeders in alarm let the stuff go. Chicago was constantly flooded with half-fat lambs that were

than usual this year and but for premature marketing of fed stuff packers' coolers would have been bare.

Eastern demand was slack, but light receipts in the West offset this, and high prices were maintained. Cheap pork furnished lamb and mutton with keen competition at all times and undoubtedly impaired consumption. With pigs selling at \$5.00@5.50 per cwt. at Chicago, an \$8.50@9.25 lamb market warranted surprise. This year, however, meat did not carry the load, as wool pelts and by-products realized unprecedented prices.

Sheep and yearlings were more

foot and mouth disease reduced Chicago receipts to a handful and boosted prices. The average price of fat lambs during the first eleven months of the year was \$9.05 against \$7.90 for the entire year of 1914, and that was the previous record.

November's lamb top was \$9.40. During 19 days of the month the top was \$9.00 or better. Thousands of lambs went over the scales at \$8.50@9.25.

The yearling top for the month was \$7.85, the highest since July. Bulk of yearlings sold at \$7.00@7.75.

Straight aged wethers scored at



DISPOSING OF THE ALFALFA CROP IN IDAHO.

not in good mutton condition and in many cases sold for less than first cost. Abnormally high prices at intervals attracted other stock earlier than it would have shown up at the market under normal conditions, constantly the November run was to a large extent a draft on future supply and half-fat lambs marketed then will be missed later in the season.

The November run carried a considerable number of clean-up shipments of range stock, much of it common. Not as much of this stuff reached Chicago as usual, however, owing to closure of the feeder outlet. The range movement subsided earlier

plentiful than in October, Dakota wheat fields being generous contributors of matured stock. Lambs, however, comprised the bulk of the run. Considering scarcity of matured sheep, the spread between these lambs was illogically wide, the public demand being emphatically for lamb. Packers asserted that lamb carcasses sold readily at 14 cents, while mutton was sluggish at 10 cents. Temperatures were high during the month all over the East.

Average cost of fat lambs at Chicago for the month was \$8.85, a new November record, being 5 cents higher than the November 1914 average when

\$6.50, some carrying a yearling and reaching \$6.75. Most of the aged wethers sold at \$6.10@6.35. A full load of sheep was a novelty much of the time.

Aged ewes sold up to \$6.10, the bulk at \$5.50@5.85. Average cost of wethers and ewes was \$5.80 or 25 cents less than October, but 20 cents higher than November, 1914, and a new November record.

At the close of the month lambs and yearlings were 15@25 cents under the high spot, but lambs finished 25@40 cents above the October finish. Handyweight yearlings and wethers closed on the same basis as the previ-

ous month, while fat ewes showed a gain of 15@25 cents, finishing at the highest level of the month. The sheep end of the deal had a strong indenture toward the end of the month, the gap between mature and young stock showing a disposition to narrow.

Packers fought every advance and were constantly on the alert for opportunities to hammer prices. These were frequently furnished by shippers and feeders who held back on breaks and ordered cars on bulges, thus playing into buyers' hands. Thanksgiving week developed a miniature boom, which filled the market on Friday with a record run for that day and caused a 50 cents decline on lambs although the damage was promptly repaired.

MEETING OF STATE BOARDS OF SHEEP COMMISSIONERS

There seems to be no uniformity in the regulations of the various state boards of sheep commissioners concerning the movement of sheep between western states. This lack of uniformity causes considerable inconvenience to western flockmen. It is believed that these regulations can be made fairly uniform, and with that thought in view the National Wool Growers Association has asked the various state boards of sheep commissioners to hold a meeting in connection with the National Wool Growers meeting at Salt Lake City for the purpose of making these regulations as uniform as possible. It is also suggested that the boards of sheep commissioners could render valuable service by taking up the coyote work and other matters of exceptional interest to western sheepmen. It is thought that a meeting of these boards will prove of value to all concerned.

THE WOOL OUTLOOK.

The wool market has during the past few weeks seen the development of an unusually strong demand and another upward movement in values. This has been equally felt in all the oversea markets, as well as in Lon-

don, and has occasioned no little perturbation and amazement in the home industry, where it has come as a surprising and emphatic response to the pessimistic tone and "bear" movement which possessed Bradford a few weeks ago. It is due almost entirely to a very remarkable activity in the U. S. A. industry, on whose account large operations are being made in the Australian, New Zealand and South African markets. The orders for army cloth from the Allies appear to have coincided with the commencement of this activity, but apart from these orders, the normal trade of the country is better; for the woolen industry is sharing in the general commercial prosperity which the war has brought to the United States. One gathers from various reports that there are other factors which are influencing these large operations, besides their actual trade prospects. It is stated that some of the large financial and commercial houses anticipate an early collapse of the war; and it is also believed (and with some ground) that after the war German trade can be done by U. S. A. traders to advantage in the various wool markets. Then there is the fact that is apparent to all, that the clip promises to be inferior, and that good wools may be scarce later in the year; and these various views give confidence to U. S. A. consumers and dealers to buy freely. It should be stated also that in Melbourne and Sydney there has been strong support given to crossbreds by Continental houses on Italian and French account, and that the apprehension of a reimposition of the embargo on crossbred exports may be responsible for some of this eager buying of crossbreds. Some 30,000 bales have been taken by U. S. A. in New Zealand alone, prior to the opening of the sales.

The market in South America is quite a law unto itself this season. The prices have been too prohibitive even for U. S. A.'s urgent needs. The German houses have bought a large portion of the clip on the farms, prior to the opening of the central market. It is surmised that the wool will be held,

so as to be available for the close of the war, about which optimistic views are strongly held in the circles named. The extent of the operations and the prohibitive prices paid excite curiosity as to the responsibility for these purchases.

Our home markets have become more active and cheerful, but there is still a great reluctance to follow the Colonial prices. The abnormal conditions which govern our trade, and especially the uncertainty as regards export trading, must for some time render our market very liable to fluctuations, such as have indeed been experienced during the whole period of the war. The most remarkable and pleasing feature of the market just now is the amazing absorption of the shabby and faulty wools, which at one time promised to be almost unsaleable. The orders for overcoatings, blankets, etc., from some of the allied governments have called for these cheaper materials, and there has been a wonderful clearance at this series at much improved rates.

H. DAWSON & CO., London, Eng.

BOSTON WOOL MARKET.

(Commercial Bulletin.)

SCOURED BASIS.

Texas.

Fine 12 months	65@67
Fine 8 months	60@62
Fine fall	55@57

California.

Northern	65@66
Middle County	62@63
Southern	55@56
Fall free	51@53
Fall defective	45@48

Oregon.

Eastern No. 1 staple	71@72
Eastern clothing	67@68
Valley No. 1	59@62
Valley No. 2	54@56
Valley No. 3	52@53

Territory.

Fine staple	73@75
Fine medium staple	70@71
Fine clothing	68@70
Fine medium clothing	65@68
½ blood combing	70@72
¾ blood combing	67@70
¼ blood combing	65@66
Common and braid	57@58



**"US SHROPSHIRE THINKE THAT EVERY PROGRESSIVE SHEEPMAN OUGHT TO
ATTEND THE NATIONAL WOOL GROWERS' CONVENTION, JANUARY, 13-14-15"**

NEW COTTON SEED CUTTER.

Those who have used cotton seed cake have complained that the cake came in a great number of sizes and that the finer particles were lost when fed on the open ground. We are now advised that a device has been patented by which cotton seed cake is cut with a knife into cakes of any size desired. By this process the large and small lump are avoided and very little waste should result. We do not believe, however, that any of this cut cake has yet been placed on the market.

Do not forget that the railroads are giving especially low rates to those who attend the National Wool Growers' convention in Salt Lake City, Utah.

**ANNUAL MEETING OF THE
AMERICAN OXFORD DOWN
RECORD ASSOCIATION**

The annual meeting of the American Oxford Down Record Association was held in the Stack Yard Inn, Chicago, Wednesday evening, December 1, 1915.

President Henry Arkell being absent, Vice-President R. J. Stone took the chair. The minutes of the 1914 meeting were read and approved. The treasurer's report showed a balance of \$1,903.26 on hand; \$600.00 has been paid on the printing Volume 13, which is now in the binder's hands, and according to contract, the balance \$695.00 will be due when the books are finished and delivered, which is expected in a few days and \$50.00 which is offered at the Ontario Provincial Winter Fair will be awarded next week.

On account of foot and mouth disease, California barred from the Panama-Pacific International Exposition live stock from many states that all but one of the Oxford Down sheep exhibitors were cut out, and this Association withdrew its appropriation of \$1,000.00 for special prizes which had been offered there, but C. P. Kizer, Harrisburg, Oregon, made such a creditable showing that Mr. Knollin, of Idaho, made a motion which was sec-

onded by Mr. Croxen, of Iowa, that Mr. Kizer be allowed the first premiums on his entries, the total amount not to exceed \$150.00. Carried.

The amount of money to be offered in special prizes at State and Provincial Fairs and other live stock shows in the United States and Canada in 1916, was left to the Executive Committee.

R. J. Stone, Stonington, Ill., was elected president of the Association for the ensuing year. N. W. Harris, of Chicago, vice-president; C. C. Croxen, Atalissa, Iowa, and J. C. Williamson, Xenia, Ohio, were re-elected directors for two years, and W. A. Shafor, Hamilton, Ohio, was re-elected secretary and treasurer.

Adjourned to meet in Chicago during

**YOU are coming to the
National Wool Growers
Convention, January
13th, 14th and 15th. The
railroads have all granted
low rates. When you buy
your ticket be sure to ask the
agent whether you need a re-
ceipt or not. Also be sure
and tell him you want the
special rates to the National
Wool Growers Convention.**

the time of the International Live Stock Show, December, 1916.

**COYOTE FIGHT BRINGING
GOOD RETURNS**

We notice the fight on coyotes that has been carried on through the National Wool Grower is having a good effect. The woolgrowers of the northern part of Rich county, Utah, are paying a special bounty of \$2.50 on coyotes. The woolgrowers of Lincoln county, Wyoming, are also paying a special bounty of \$2.50 on coyotes. It seems to us that the woolgrowers of the southern part of Rich county should get busy and put on a bounty.

J. NEBEKER, Laketown, Utah.

IN order to make this paper representative of the entire sheep industry we are anxious to have the sheep news from every section of the country. We therefore invite our readers to send contributions for publication. We are always glad to receive sheep photographs and we will publish them from time to time.



Lambs on Peas in the San Luis Valley

By ROSCOE WOOD

IT IS the same old story, but with varying detail. The lamb and the sheep have been the pioneers that have led the way to competency and fortune for many a man who has pinned his faith to the golden hoof. It has been this same woolly coat that has rejuvenated worn-out soils and cheered and rehabilitated many a discouraged farmer. He has been no respecter of time, place, nor men. All he has demanded has been intelligent care. With that supplied, satisfactory results have never failed to be forthcoming.

Down in southern Colorado, between the Sangre de Christo and the San Juan Mountains lies a fertile valley on

peafeeding system of this valley. That it is both cheap and easy will be made apparent. But the man who was the initiator of peagrownig in the San Luis country declares that this very ease of the system is proving a detriment to the full development of the country.

The inception of the industry and its gradual development can not fail of interest. The growing of peas in the San Luis valley was not an accident. It was the original idea of an imaginative mind which did not hesitate to study and reason out new methods and to travel new roads. James A. Kelly came to the valley in 1888 to take charge of the lands held by a large

Kelly was industrious, ambitious, far-sighted. Life was too short to wait two years for a crop. Alfalfa was but little known, its value only just beginning to be appreciated up in the Collins country. It was reputed to be hard to start, and winterkilled easily. It required time to make its place in a profitable crop rotation. It was too slow for the nervous Kelly. He studied crop reports and the work of experimenters. He knew of the use made of peas by Canadian farmers. He saw the Mexicans down in the south end of the valley raising little patches of peas, and their land retaining its fertility. He was sure this land with which



LAMBS IN THE PEA FIELDS OF THE SAN LUIS VALLEY.

either side of the Rio Grande River, which heads a little way above upon the eastern slope of the continental divide. In the early days of the Spanish occupation the King of Spain made a grant to one San Luis of all the land in this valley, and from this it takes its name. Its extent is about a hundred miles in length, and thirty to forty in breadth, from Del Norte on the northwest to Conejos on the south. The center of the lambfeeding industry is Monte Vista, about twenty miles from the upper end; and it is with this that we are concerned.

What the largest feeder in the valley claims is the cheapest and easiest method of fattening lambs to be found anywhere in the United States is the

corporation that had taken over the bulk of the cultivated lands that had been put under an irrigation system four to seven years previously. Mexicans seeking good grass and new lands had come into the valley along about the middle of the last century, and soon thereafter a mining excitement in the San Juan mountains had attracted many white men, some of whom realized the possibilities of the rich soil of the valley and sought crops of grain. When Kelly came, already this land was showing the effect of constant grain cropping, and farmers were following the ages-old method of summer fallowing and leaving the land idle every other year so it could regain its strength.

he worked demanded humus and nitrogen, and he figured the quickest way to get these essential properties into the soil was with peas.

From the pea-growing Mexicans he got his seed, and in the spring of 1893 he sowed a half section. They grew and made an abundant crop. Part were cut for hay, and part were left to ripen on the ground. He was seeking the replenishment of the soil, and had given the question of disposing of his pea crop but little consideration. Canadians and Mexicans fed hogs. Kelly went to Nebraska and bought a carload of porkers. In less than a month cholera had claimed all but one lone pig. Then he turned to cattle, bought two and three-year-old steers, made a

good gain on them, and thus found a profitable market for his peas. He was like most other men experimenting with the various classes of live stock, he tried all the others before he gave the sheep a chance, in spite of the fact that he was surrounded with them on every side. Perhaps he was following the old adage that distance lends enchantment, perhaps he was influenced by the fact that most of the sheep in that section were run by Mexicans and were of inferior quality. Whatever it was matters not now, for the next year he bought 1300 lambs and 800 wethers down in the lower end of the valley, and fed them on pea hay.

As yet the value of the peas as grain was not appreciated, and a grain ration of oats, barley and wheat was used to supplement the pea hay. As a matter of fact these men were imitating the Collins feeders, except that they were substituting the peas for the alfalfa. They were raking the peas when the pods were filled and the vines still green, putting into cocks, and handling the same as hay. They were feeding in panels. They were feeding other grains. The lambs were run on grain stubble until about the first of January, then put into corrals and fed as described. They had not yet stumbled upon the easy way which later made the valley famous. Nor was it Kelly that found it. He was looking for something more laborious and more complicated, something that required study and effort.

Kelly's first bunch of wethers were sold to Leadville butchers, but he shipped the lambs to Chicago along in the late winter of 1895, and were the first fat lambs that ever went to that market from the San Luis valley. They weighed 76 pounds, and brought \$5.10 to \$5.25 per cwt. They had cost him a dollar a head down in the valley the fall before. You can figure the profits, or you might prefer to call it the market price of the peas. The next year he fed three thousand lambs, started them on grain earlier, and intended to get them on the market sooner, with a shorter feed. But the market went wrong, he got "cold feet,"

and sold them half finished to the man that has since become Colorado's greatest lamb feeder, W. A. Drake, who took them to Fort Collins and finished them. Lamb-feeding looked too risky to Kelly, and he quit for several years. He fed his peas to calves and steers.

Kelly had a neighbor, F. Sylvester, a name which at one time was synonymous with San Luis pea-fed lambs. Sylvester saw Kelly raise peas successfully and he saw him feeding lambs. Observing man that he was, he went and did likewise; but he did not quit. He stayed with it, and accidentally fell upon the easy way of handling peas. One fall his peas got too ripe to harvest without a heavy wastage, so he concluded to turn in the lambs and let them clean up what they would. The lambs did fine and grew fat. The next year he increased his feeding by this

YOU are coming to the National Wool Growers Convention, January 13th, 14th and 15th. The railroads have all granted low rates. When you buy your ticket be sure to ask the agent whether you need a receipt or not. Also be sure and tell him you want the special rates to the National Wool Growers Convention.

method. His neighbors saw him doing this easy feeding, making good gains, and fair profits. Like fire on a dry prairie did the mania for feeding lambs on the pea fields spread over the San Luis valley. Every farmer sowed peas, and sought lambs with which to harvest them. From the small beginnings it was but a few years until as many as four hundred thousand were fed in this way in a single season. The San Luis country took its place beside the Collins country in the importance of its lambs at the principal markets. This year conservative estimates place the number on feed here at 125,000.

To be continued in January.

GOOD ADVERTISING.

I am enclosing you check due your paper. I look forward with anxiety for its appearance each month.

Very largely through my advertisement in National Wool Grower I have sold all my bucks and had a demand for at least three hundred more than I had to offer.

I received through the Walnut Hall people from England, a fine Hampshire ram. My lambs are now coming daily. The winter so far has been open and I have only fed my sheep twice through two little flurries of snow.

With best wishes for the continued success of the National Wool Grower, I am,

A. W. RUCKER, Colorado.

FROM QUEEN, NEW MEXICO.

The range here in the Guadalupe Mountains is in fine shape, and unless we have very heavy snows later in the winter sheep will do well this year.

Coyotes are not very numerous, but bother us some during spring and summer. However, our worst trouble is with poisonous weeds, which begin to kill sheep in January and sometimes earlier if the winter is hard. This weed has not been classified as yet, though some sheepmen think it is one thing and some another, but the Government has sent a botanist to the Alamo National Forest, which is situated in these mountains, to make a collection of the flora within its boundaries. This weed kills goats as well as sheep, and some years the losses are heavy, especially if the range gets short in the valleys and the sheep have to take to the ridges. It is in this way that they strike this plant, and if driven even a short distance after showing signs of poisoning, will stagger a while and then drop as though shot. We hope in time to know what causes this poisoning, but at present about the only safe course is to keep to the flats during the dead of winter when this danger is most to be feared.

VICTOR LANDE, New Mexico.

Salt In The Making

By MISS FLORENCE SCHROEDER

THE white, crystalline, lustrous substance, readily soluble in water and whose chemical nomenclature is sodium chloride (NaCl), is commonly known as salt. Its existence and its use were known and recognized by the early peoples as ancient history and ancient literature both mention it frequently. The Bible is replete with allusions to it. We read in the book of Genesis of the wife of Lot becoming a pillar of salt—and fiction adds that she stood as an alluring salt lick for the sheep and cattle of the following centuries; the Jews offered it to Jehovah in their sacrifices. Horace speaks of it as divine. Plutarch mentions it. Tacitus tells of a battle being fought to gain a salt spring. A portion of salt was always given to the Roman soldiers with their other rations. Many countries had a tax on salt. In the Holy Land a block of salt was used as a medium of exchange.

Nature seems to have anticipated the need of salt to the animal kingdom, and has given us an abundance of it, widely distributed over the earth. Large quantities exist in almost every civilized country. Approximately four per cent of the water of the ocean is salt. We find seas and lakes saturated with it. Brine flows from the hillside spring. It is encrusted upon the earth's surface, and concealed beneath its surface in mines.

Its origin is merely a conjecture. The rock deposits probably are the precipitate of an ancient sea, which time has buried. An encrustation on the sur-

face of the earth is a bed of an evaporated sea. An underground stream of water comes in contact with a stratum of salt, dissolves it and brings it to the earth in the form of a saline spring. A salt lake is probably formed as follows: A depression of land is fed by a stream that connects with the ocean. Due to geographical changes, this lake becomes isolated. A hot, arid climate soon concentrates the solution, leaving a large percentage of salt in it. It is

Utah, West Virginia, Pennsylvania, Nevada, New Mexico, Oklahoma and Idaho in the United States are manufacturing it.

Little is known about the beginnings of the salt industry in this country. Previous to the year 1620 salt was made in Virginia. In 1624 it was manufactured in the New England states around Cape Cod. In these early colonial days, the salt was extracted from the water of the ocean by boiling. Our

salt industry had a slow and steady growth until it reached its present proportions. Today we practically supply the entire domestic demand for salt except in a few portions of the country along the Atlantic, where salt is imported from the West Indies and the Mediterranean countries. We export some of our domestic salt to Canada, Cuba and the Panama. The total production of salt for the year 1914 was 34,804,683 barrels, valued at \$10,271,358. Our imports were 934,

319 barrels, valued at \$380,803. Our exports were 587,818 barrels, valued at \$586,055. There remained in the United States 35,151,184 barrels. Our exports in quantity and value were the largest in 1914 in the history of the industry. Our imports for this year showed a decrease over preceding years. The State of Utah in 1914 produced 375,457 barrels, valued at \$231,512.00. The profits of the salt industry in this country have never been great, and the manufacture of it (except where it is evaporated by the so-



FLOWING SALT ON THE SALT DESERT OF UTAH

supposed that the Great Salt Lake and the Dead Sea were thus formed. Salt is constantly being formed by chemical changes taking place in the minerals of the earth. Animals, both living and dead, are continually depositing large quantities of it.

Realizing the economic value of salt, Great Britain, Germany, Catalonia, France, Japan, Italy, Russia, Turkey, The Sahara, Punjab, Mexico, Chile, Peru, Porto Rica, Hawaii and the states of New York, Michigan, Ohio, Kansas, Louisiana, California, Virginia, Texas,

lar system) can only be carried on in places where they have access to a cheap fuel supply and have a local demand for it so as to avoid the expense of freight as far as possible in its distribution. Salt rarely occurs in its pure state, and today the by-products are being utilized, and thus the profits of the industry are being increased.

Rock salt is mined by sinking deep shafts or by blasting. It is then broken up into different sizes and sold for use for cattle, packing and salting hides, etc. Or when it is found in an impure state, it is dissolved, recrystallized and refined and sold as table and dairy salt. But more often wells are sunk or water pumped onto these deposits, and when the water becomes impregnated with salt, it is pumped into vats or ponds, and the salt obtained therefrom by some system of evaporation. It is obtained from the surface encrustations by plowing it, and then shoveling it up. Salt is also procured from the water of springs, lakes and seas by evaporation. Although formerly it was commonly taken from the water of the ocean, it is seldom so obtained now except in Portugal, Spain, Italy, Austria and France, where the climate is dry and the summers long.

Austria has the most interesting salt mines in the world. A city of considerable size has been built underground where the salt has been excavated. One thousand workmen are permanently employed and about 2,400,000 pounds are yearly produced. The salt exists here in practically a pure state and is sold just as it is mined without any purifying processes.

The only salt, to our knowledge that is being marketed from an encrustation on the surface of the earth is that which comes from the Capell Salt Company's fields at Saldura, Utah. This expanse of salt is supposed to be a bed of the old lake Bonneville, of which the Great Salt Lake is now the only remains. Here we have a beautiful snowlike field of salt extending over an area of 40,000 acres. The depth varies from a few inches near the edges to about 15 feet at the center. It is

ploughed, shovelled up and sacked and marketed in this form for sheep and cattle. A part of this salt is refined for table and dairy use at the company's mill at Saldura.

The various processes of evaporation are (1) Solar evaporation, (2) direct heat in jacketed kettles and open pans, (3) steam evaporation in jacketed kettles and in grainers and (4) vacuum pan evaporation. The second and third of these methods have practically gone out of use.

An understanding of the solar evaporation process will be obtained by an explanation of the Inland Crystal Salt Co's. works on the shores of the Great Salt Lake. About May first of each year, brine is pumped from the lake into the adjoining settling ponds, where it remains until the foreign matter in the brine as sand, etc., is settled. It is then skimmed and the brine drained off into a stock pond, where it remains for several weeks until the substances as gypsum and other salts, which are less soluble than sodium chloride, are precipitated. The brine is then sluiced off into the adjacent harvesting ponds to a depth of six inches. The stock pond is then refilled. The evaporation in the harvesting ponds is about two inches a day, which loss is continually made up from the stock pond. About September first, the pumping is stopped. The water soon evaporates from the ponds. The deposit, which is about from three to six inches deep and which is very hard, is then ploughed, loaded into cars, taken to the near-by mill, dried, ground, refined and bagged.

Salt is a commodity of common and universal use. It is fed to the sheep on the desert and graces the imperial tables. Scientists have been unable to explain adequately the chemical and physiological necessity of salt to man, but the appetite for it is so general and imperative that it cannot be a mere accident, but is created in answer to an urgent need of the system. Salt is not a nutrient. But it is thought to stimulate the activity of the saliva and of the gastric juice of the stomach and thus aids the digestion of our food. Some say

the physiological necessity of salt is due to the fact that our sense of taste protests against the necessary function of eating tasteless food unless this function is made pleasurable by some savory excitant, the most common of which is salt. Still this explanation is inconsistent for some people and animals have no desire for this substance and in some instances a positive aversion for it. Egyptian priests did not use it. The canivora abhor it. Hunters, fishermen and nomadic tribes as those of Northern Russia and Siberia, the Kirghizes of Turkestan, Bedouins of Arabia, which peoples live mostly on a meat or a meat and milk diet, eat no salt. Dogs, cats and chickens have no desire for it. The herbivora need it. Mungo Park writes: "The long use of vegetable food creates so painful a longing for salt that no words can sufficiently describe it." This cannot be explained for both animals and vegetable foods contain little salt. Salt is abundant throughout the body. It is in the blood, all excretions are salty and even tears.

Sheep and cattle show a great desire for salt and lick it up with great eagerness. In fact, they suffer for lack of it. Buffon wrote, "Nothing pleases the appetite of sheep more than salt." Salt should be fed regularly to sheep and cattle. It is harmful when fed irregularly and in large quantities. Daily they should have easy access to a supply of salt. They will not eat more than the system requires. Salt should not be mixed with their food for no two animals require the same amount. The amount of salt needed depends upon the animal itself and also upon the kind of food eaten, the more succulent the forage, the more salt required. Salt is best fed in troughs near to watering places as it is necessary that they drink water freely when salt is eaten for salt increases the activity of the vital processes of the body and draws the water from the tissues of the body unless it is supplied by drinking. For this reason sheep lose rapidly in weight when fed salt with out water and on the other hand gain rapidly in weight when fed salt with

water. Salt increases the consumption of food and aids in its digestion. It has been shown by experiments that sheep and cattle thrive better with it than without it. It has been noted that when sheep are not fed salt, they develop an unnatural appetite, eating shoes, bags, barks of trees and unwholesome grasses.

Besides its use as a seasoning for foods and its use for animals, it has various economic uses. It is used as a preservative for fish, meats, butter and other foods; for curing hides and fish; in the manufacture of pottery; in enamelling and pipe works; and in chemical and metallurgical industries. Wood has been known to have been

it acts as an emetic and as an antiseptic. It has been found that the moist salt-saturated atmosphere of salt manufacturing has a beneficial effect on the health of the employees. It prevents colds, rheumatism and neuralgia. It has a wonderfully invigorating effect when used in baths. One of the most interesting and most frequented natural salt water bathing resorts is the Great Salt Lake of Utah. Thousands of bathers enjoy the unique pleasure of bathing in it each year. If you succeed after much practice within close proximity to your coach to keep your feet in and your head out and arise and lie prone without strangling, the pleasure and invigoration derived from a

lands; the 640-acre grazing homestead bill; administration of forest reserves; eradication of poisonous plants; marketing of livestock and its products; delays at terminals; stockyard facilities; financing livestock loans; valuations in railroad livestock contracts; charge for cleaning and disinfecting of cars; railroad rates and services; recent rate cases before the Interstate Commerce Commission; suppression of the foot-and-mouth and other infectious diseases; sanitary regulations of different states; prohibition of the importation of livestock and animal products from countries where contagious diseases exist; inspection of meats and hides from Mexico; protection of



CHAMPION AND RESERVE CHAMPION HAMPSHIRE EWE AT PANAMA EXPOSITION, OWNED BY BUTTERFIELD LIVESTOCK CO., WEISER, IDAHO.

preserved in the Great Salt Lake. In doing some repairing on the line of the Southern Pacific, the workmen found that piles driven in many years ago were still in perfect condition. On closer examination they found that they had become saturated with salt. Dr. Ed. Arnold constructed a skating rink made of salt in Berlin. The salt had been melted and then poured over the floor. It hardened readily and evenly. In appearance, endurance and smoothness, it showed all the characteristics of ice. Exhibitors skated on it very successfully with ordinary ice skates.

When used for medicinal purposes,

thirty-minute stay in this water cannot be duplicated.

CALL FOR CONVENTION.

To Members and All Livestock Associations and Livestock Producers:

Call is hereby made for the Nineteenth Annual Convention of the American National Live Stock Association, to be held at El Paso, Texas, January 25, 26, and 27, 1916; convening at 10 o'clock a. m. on Tuesday, January 25; morning sessions only.

Among the many subjects for consideration are:

Federal control of public grazing

American livestock owners and ranchmen in Mexico; livestock conditions in foreign countries; destruction of predatory animals; exports and imports of livestock and meats; meat-inspection law; prohibitive tax on oleomargarine; needed legislation; reports of officers and standing committees.

These and other questions will be discussed by men prominent in the livestock world. An unusually interesting program is being arranged. Officers of the Bureau of Animal Industry and the Forest Service will be present at our meeting.

The annual convention of the National Wool Growers' Association will

be held in Salt Lake City, Utah, January 13, 14, and 15, 1916.

The National Western Stock Show will be held in Denver, Colorado, January 17 to 22, 1916.

The railroads have agreed to grant reduced rates to our convention, of which due notice will be sent out later.

El Paso has promised us a royal welcome.

All stockmen are invited to attend.

DWIGHT B. HEARD, President.

T. W. TOMLINSON, Secretary.

AROUND HELENA, MONTANA.

There has been a decided change in the status of the sheep industry in the vicinity of Helena in the last few years.

Some wool growers have been forced out of business by the settlement of their range, but those who now remain in the business own most of their range lands and are in a position to build up their business on a permanent basis.

This has been brought about, in part by the fact that the odd sections in this vicinity were in the hands of the Northern Pacific Railway Company. After they had carefully classified their lands and sold those suitable for farming to settlers, they have during the last few years adopted the policy of making the parties, holding grazing leases, buy the remaining rough lands.

This has made a large increase in the fixed expense of the wool grower. All the large outfits in this locality now have to make interest on a land investment at least equal if not greater than their investment in sheep and they also have the land tax to pay.

This has put a large additional burden on the industry, yet at the same time, has given it more stability. It is resulting in the fencing of the range and better methods in grazing it, and this will mean a larger carrying capacity, and I believe wool production has reached its lowest point in this vicinity and the future will see an increase in the amount of wool and sheep produced.

This ownership of the land is bound to result in better management, better and more consistent breeding, better

methods of marketing our products. The land owner will take more interest in the extermination of coyotes and other things that affect the industry. The high price of old ewes this year has resulted in a thorough weeding out of the undesirable.

We have had a splendid fall and are going into the winter with all sheep in good shape and lots of feed both on the range and in the stack.

F. D. MIRACLE, Montana.

CHICAGO SHEEP PRICES.

Week ending—	Bulk of Sheep.
November 6	\$5.25@6.25
November 13	5.50@6.30
November 20	5.25@6.10
November 27	5.50@6.35
Week ending—	Bulk of Lambs.
November 6	\$8.25@8.90
November 13	8.50@9.00
November 20	8.65@9.25
November 27	8.25@8.90

TOP PRICES.

Week ending—	Sheep Lambs.
November 6	\$6.30 \$9.10
November 13	6.45 9.35
November 20	6.25 9.00
November 27	6.50 9.40

AVERAGE PRICES.

Week ending—	Sheep.	Lambs.
January 2	\$5.80	\$8.50
January 9	5.80	8.50
January 16	5.55	8.30
January 23	5.75	8.30
January 30	6.00	8.50
February 6	6.30	8.90
February 13	6.50	8.45
February 20	6.75	8.50
February 27	7.25	9.15
March 6	7.50	9.65
March 13	7.60	9.55
March 20	7.50	9.65
March 27	7.50	9.50
April 3	7.50	9.25
April 10	7.50	9.40
April 17	7.75	9.70
April 24	7.80	9.65
May 1	7.70	9.75
May 8	7.65	9.50
May 15	7.90	10.35
May 22	7.40	9.95
May 29	6.60	10.25
June 5	6.65	10.20
June 12	5.75	9.85
June 19	5.25	8.95
June 26	5.50	9.10
July 3	6.15	9.60
July 10	5.75	9.60
July 17	5.75	8.80
July 24	5.85	7.05
July 31	6.40	8.60

August 7	6.70	9.15
August 14	6.40	8.95
August 21	5.70	8.85
August 28	5.85	9.10
September 4	5.80	9.10
September 11	5.60	8.75
September 18	5.50	8.55
September 25	5.85	8.65
October 2	5.75	8.90
October 9	6.00	8.80
October 16	6.40	8.75
October 23	6.15	8.65
October 30	5.70	8.80
November 6	5.90	8.75
November 13	5.90	9.05
November 20	5.50	8.65
November 27	5.80	8.95

NEW ZEALAND

LINCOLNS TO IDAHO

In the October number of this paper, we published a photograph of a very excellent New Zealand Lincoln ram, owned by William Perry, the leading breeder of Lincolns in New Zealand. This ram was exhibited at the Panama-Pacific Exposition, and we are gratified to learn that he and another ram equally as good were purchased by Knollin and Finch of Soda Springs, Idaho. One of these New Zealand rams is a two-year-old and the other is a three-year-old. The three-year-old ram has been used by Mr. Perry in New Zealand as one of his best stud rams.

IMPORTS OF SMALL VOLUME.

During the first nine months of 1915, 121,045 sheep were imported by the United States with a value of \$333,435, against 150,808 head valued at \$422,667 during the same period of 1914. Dressed mutton imports during the same period were 8,996,450 pounds valued at \$825,710, against 15,938,975 pounds valued at \$1,419,862 the previous year. The figures are deceptive, however, as much of this was product destined for the British market, routed by way of New York to secure transportation facilities.

As long as the war continues at least imports will be light. England and France can take the South American surplus and Australia has been crippled by drouth.

What Of The Future

By F. C. FREDRICKS

NATURALLY the old range sheepman looks blue these days, that is the man who ran his sheep entirely upon public lands and fell into the unprogressive ways that the old range conditions imposed. The men of this type who have not accustomed themselves to new ways and new results see the old range passing into new hands accompanied by a deed that forever prevents it from being free range again. Some men believe that sheep cannot profitably be handled on deeded land, and that is true providing the sheep and methods of handling

are not of the highest quality. But maybe the passing of the free range will be a greater benefit to the men who used it than to anyone else in the West. The open range was a hard taskmaster that imposed conditions which were insurmountable in many, many instances. Drought in summer and blizzard in winter followed in just sufficient regularity to wipe out the profits of the good years. Then in addition were the losses from pileups, poisonous plants and wild animals to be considered, so that all in

all not one sheepman in three closed his range account with anything to the good. Fortune favored some men because it placed them in a position where they were forced to buy land or else go out of business. The development of wheat farming has made this land valuable and has made rich many range sheepmen, who, had they been forced to depend on the sheep for their profits, would have left the business without any. The public generally points to men of this class when telling of pro-

fits of the sheep business, when as a matter of fact all the sheep had to do with these riches was that they forced the owner to buy land. We use the word "forced" advisedly because few of these men who bought land years ago wanted to buy; they had to buy to protect their range. Then came wheat farming and national irrigation and relieved these men from a burden that the sheep could never have unloaded under old prices for wool and mutton. Someone has said that more money has been put into mines than has ever been taken out of them. We

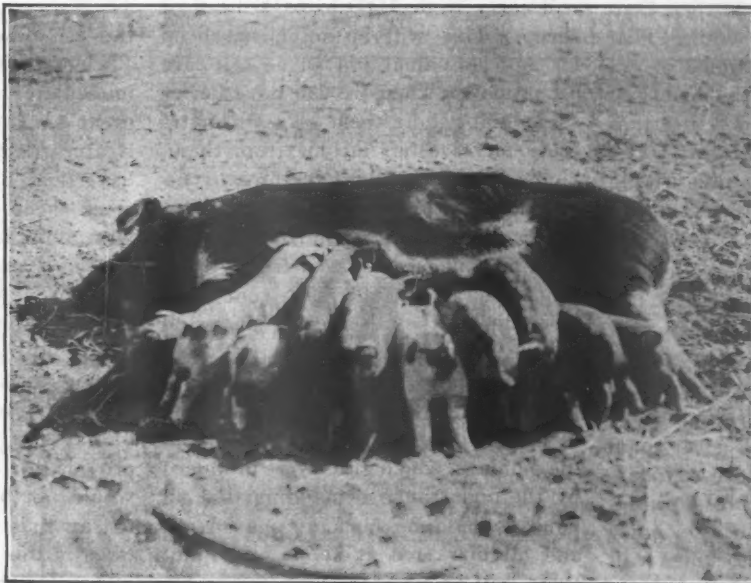
rather than by breeding sheep. Remove from the ranks of our old-time sheepmen those who made their money through enhancement in land values and those who obtained it by speculation, and you will have left a class of men of very moderate means. This does not speak well for the open range.

But if the range demanded its pound of flesh, its cloud had a little shimmer of silver that is just beginning to show. Engaged in the old-time sheep business were many men of stout heart and rugged bone. These men prepared for the future by so locating

themselves that, after the open range passed, they could still go on by reducing their flocks and handling them on a more efficient basis. They have bought land, but not too much and at a low price. Many have rights in the National Forests and own ranches where feed and pasture will be produced. During years when other were buying more sheep and high-priced land, they have been arranging to run their own house by getting out of debt and fixing to handle a few sheep well rather than many sheep in a careless man-

ner. These men are the ones that are sticking, and let the worst come, they will still go on.

The last five years have seen millions of acres of the best grazing lands taken by the settler and probably the next five years will see more than half of the remaining free range pass into private hands. Nothing will be left but the deserts and lands of but little value for grazing. We need no longer oppose the settlement of these lands for to do so simply puts the sheepman in bad repute with his community for



A SCENE ON AN IDAHO SHEEP RANCH.

wonder if this has not been true of our sheep industry in certain states. The public has always felt that under free range the sheep business returned more than a legitimate profit. Probably the inception of this notion came from the fact that while wool had a tariff, one political party constantly insisted that sheepmen were plutocrats, and through these politicians the public was deceived. And, also, we must not forget that many western sheepmen have accumulated much of their wealth by speculating in sheep

this free land will inevitably pass as a result of the demand for something free. But this change must be gradual. Nothing could be more destructive to western welfare than that these lands should by ill-advised legislation be taken away from western stockmen at one fell swoop; and herein lies the danger from the enlarged homestead. Necessarily, western people of the broadest vision know that the highest use of our western lands comes when they are devoted to producing sheep and cattle, the products that nature intended they should produce. But the country is wheat mad, and prompted by commercial clubs, railroads and real estate agents, thousands of people will yet be found to take up land. And then Congress must be reckoned with. That august body has determined to put every acre of land into the hands of someone, regardless of whether it is wise or not. This policy means votes, and only a few public servants are big enough to disregard that feature of the public land question.

Yes, the free range has passed for most sheepmen and even in the few sections, where the rangeman now feels secure, it will slip away a little at a time. Then where will we keep our sheep? Regardless of opinions to the contrary, the West will never again have more sheep than it has today, and the likelihood is that present numbers will be decreased. It is popular to say that many small stockmen will keep more sheep than a relatively few large stockmen. This, however, is not the case. Homesteaders are not stockmen, and not one in twenty-five ever becomes a stockman. They are not fitted for the business, and have neither the faculties nor the money required to make a start with either sheep or cattle. Taking the average western range lands, a family could not hope to make even a living from livestock on less than four sections of land, and into this classification can be placed millions of acres of land now used for dry farming. Much of the land that is now being dry farmed will continue under that process for it will

return more in wheat than in any other crop. On the other hand much land that is now dry farmed will prove a failure for grain production, and this will be bought up by stockmen a little at a time and stocked with sheep or cattle. Naturally at first the price of this land will be high, around \$10.00 per acre. This price can only be paid for a few desirable tracts. When these are gone, this range land will be acquired at around \$1.50 to \$3.00 per acre, which is all a stockman can afford to pay. In this way men that today own the nucleus of a sheep ranch will add to it on all sides until the tracts grow to 10,000 or 15,000 acres. Under good management and in connection with Forest grazing, such tracts will carry from 3,000 to 6,000 head of sheep. This will be sufficient sheep for any individual and all he can care for properly. Then we can have better sheep and handle them so as to materially increase our income from them. Under these conditions the present annual loss of old sheep will be cut from 8 per cent to 4 per cent; the average lambing will be increased from 70 per cent up to around 90 per cent; the wool clip will be raised fully one pound on the average; the weight of lambs in many cases will be advanced 10 pounds. Then will end the great gluts of lambs so common at the market in the old days, which gluts were produced by the open range demanding that all lambs should be born at one season and all marketed at about one time; there will be no more long drives between ranges and to shearing sheds, which cause a loss of sheep and pack the wool with dirt; the irresponsible shearing crew will be gone and shearing will be done by local employees; the lambing will be done in pastures, feeder lambs will be fattened at home, and the herder will become a shepherd; then instead of the old arid range with its drifting dust, we will have grassed pastures made so by an intelligent system of grazing; the blizzards will come just as before, but it will find the sheep securely shedded in the vicinity of alfalfa stacks. Then the sheepman will have a comfortable ranch home close

to his flocks, and his employees will be equally well provided for. In the barnyard will be a few dairy cows and many hogs and chickens. Yes, this is the sheep ranch of the future. Here and there over the western range it is already taking shape. That it will be for the best, we should not doubt even though many fall by the wayside during the transition period.

FROM CENTRAL IDAHO.

We have had an exceptionally dry fall with practically no precipitation even yet on the spring and winter ranges. There has been quite a snowfall in the hills, but the desert is still as dry as ever. However, thanks to the early completion of the Arrow Rock reservoir, we have had in the immediate vicinity of Boise a very great amount of pasturage on the irrigated ranches. Cull ewes and lambs have done exceptionally well, and the stock sheep have done well on the dry feed of which we have had an abundance. Bands are already on the feed grounds, however, and by the middle of the month a large percentage of our sheep will be on hay, the growers preferring to save the wool at the extra cost for feed. As high as 300 tons of hay per thousand head have been provided in some instances, and it would not be missing the mark much to say that every thousand head of ewes in this section will have 200 tons of hay for the winter. Cottonseed cake has advanced about \$11.00 per ton since last year, and the quality of corn is going to be uncertain, so that hay will be our principal feed. Very large numbers of our ewes are bred for February and early March lambing and if the southern lamb crop does not get to market before June 20th, we will have another July break. It is estimated that there are 500,000 ewes on the Twin Falls tract alone bred early. Idaho with favorable spring conditions will put a million lambs on the eastern markets before August first.

HUGH SPROAT, Idaho.

*"We want to get acquainted with every Sheepman at the CONVENTION
Please call and see us."*

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ONE DIPPING KILLS ALL TICKS

Prof. Swingle, in Wyoming State Experiment Station Bulletin,
entitled "Eradication of the Tick," says:

**"I have seen large flocks of sheep practically
if not entirely freed from ticks by a yearly dipping
in Cooper Powder Dip."**

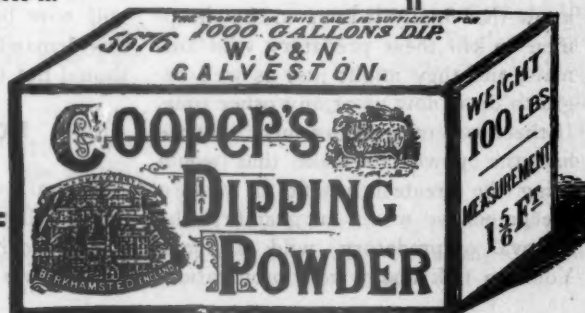
Use Cooper's Powder Dip—one dipping will kill the ticks—
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THE NATIONAL WOOL GROWERS' CONVENTION

The Fifty-Second Annual Convention of the National Wool Growers' Association will meet in Salt Lake City, Utah, January 13, 14 and 15, 1916. All western railroads have granted a rate of one and one-third fare for the round trip.

Nineteen hundred and fifteen has been a good year for many sheepmen, and we believe that they can well afford to attend this convention. In fact we feel that we have a right to expect a record attendance at this meeting. If woolgrowers do not take sufficient interest to attend this year, then they never will attend. We invite everyone interested in the sheep business to attend regardless of whether they belong to the Association or not.

OUR COYOTE CAMPAIGN.

We desire again to remind sheepmen that the officers of the NATIONAL WOOL GROWERS' ASSOCIATION have set aside December and January to be specially devoted to the destruction of coyotes and wolves. We know that finally it is up to the sheepmen to kill these predatory wild animals, and they might just as well begin to do it now as at any other time. If there was one improvement that we had the power to make that would bring the greatest benefit to western sheepmen, we would suggest first the removal of predatory wild animals. You can talk about wool preparation,

breeding better sheep, new shearing sheds, etc., but none of them would increase the sheepman's returns as much as would be done by eliminating coyotes. Now the woolgrower knows more about killing coyotes than any other man in the country, and any time he will act in concert with his neighbor, he can eliminate the coyote in less than six months. If he is not willing to do this, then he should cease his complaint about coyote losses.

BLACK WOOL.

As a usual thing the only excuse for having any black sheep is that they serve as markers on the range, for black wool is ordinarily worth less than white wool, and depreciates the whole clip when the wool is mixed at shearing time. On account of the war there is a pronounced shortage of dyes because we have depended on Germany for them, and that market is now closed. Black wools do not require as much dying as white wools, and therefore, are now selling at a premium solely on that account. Utah has more black sheep in its flocks than any state in the Union, and far more than there is any excuse for, but this black wool will now be in demand. Of course, this demand is entirely temporary and should not be catered to.

NOT SATISFIED.

Several very prominent flocks of Rambouillets were shown at the Panama Exposition. Now that the show is over, we have heard very general

complaint about the placing of the ribbons. The owners of these exhibits have very little ground for complaint. They must not forget that sheepmen do not take the Rambouillet shows seriously at all. These shows have degenerated largely into an exhibition of faked sheep. The exhibitors generally spend more than a year in doctoring up the sheep they intend to show solely for the purpose of deceiving the judge. Then when they deceive him, complaint is heard about the way the ribbons are placed. If you handle fire you or someone else will get burnt. In commenting on this show, the Breeders Gazette stated that Mr. Butterfield showed his sheep with about one year's wool on. If such was the case, Mr. Butterfield should be congratulated.

Sheep shows are rather in bad odor among western sheepmen. We have never published in this paper any extended report of any of the sheep shows because a canvass among part of its readers showed that less than twenty per cent of them cared to read a report of these shows, so we do not feel that we can afford to give them much space.

WHY NOT BOOST SHEEP?

A correspondent writes, "The only fault that can be found with the NATIONAL WOOL GROWER is that it does not boost enough for more sheep."

We plead guilty to the charge of having done very little "boosting" as that term is generally applied. We are of the opinion that the boosters have killed about every game they have tackled, and we want the sheep business to live. Years ago fruit men discovered that apples could be raised with profit at several points in the West. Men who were in the business were making some money. The booster learned of it and began to boost apples. Today apples, in most instances, pay but little more than the freight. Exactly the same thing happened to peaches and potatoes. A few years ago western farmers were mak-

ing a reasonable profit raising hogs. Then the booster took up the game and filled the country with hogs. Today hogs are selling below the cost of production. At the present time a few farmers in all western states are making money raising grass seed. But the boosters have found it out and inside of four years there will be no money in grass seed.

For many years we had more sheep in the United States than our market could assimilate, and consequently the price of wool and lambs was very low, in many cases below the cost of production. Through conditions over which we had no control the number of sheep in the country diminished to a point commensurate with the demand for wool and mutton so that today some money is being made out of sheep. We hope that there will be no material increase in sheep until the men now in the business shall have had a chance to get out of debt. An increase of 1,000,000 lambs on this year's market would have reduced the price of every lamb grown in the country fully 75 cents per head. The sheep business is now in the hands of supply and demand and these are the only safe hands to guide her destiny. If the booster will only let the sheep alone, we may have several prosperous years ahead. If there be places on the range where more sheep can be handled with profit and without crowding someone else out we shall be glad to see such places stocked with sheep; but nothing could be worse for the welfare of the industry than a campaign of "boosting."

MONTANA EWES TO IMPERIAL VALLEY

The Imperial Valley is the most productive alfalfa region in the world, producing green feed the year around and in great abundance. Ewes are lambled in that section at any season of the year, and except for the excessive heat at some season they do remarkably well.

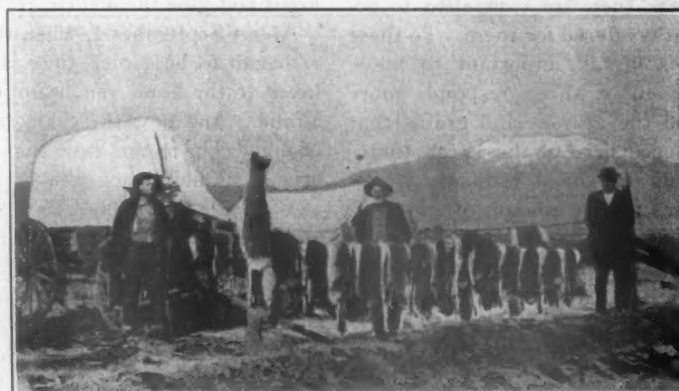
Mr. F. S. Schulz of Sheridan, Montana, is shipping nineteen cars of Mon-

tana ewes to Heber, California. These ewes will be lambled in January, and the lambs will be marketed in April and May. It is thought that ultimately a big traffic in old ewes for the Imperial Valley will develop in many western states.

IDAHO KILLING COYOTES.

I am in receipt of your letter dated November 23rd, urging the State Live-Stock Sanitary Board to put forth every effort in the destruction of predatory animals.

Wish to advise that this state is paying a bounty of \$2.50 on coyotes and during the last month the following animals were destroyed: 5,041 coyotes, 270 wild cats, 220 bears, 29 lynx, 26 wolves, 2 cougars.



TEN DAYS WORK OF A GOVERNMENT HUNTER IN UTAH

The state paid out \$15,967.50 for the destruction of these animals, so you can see that we are doing everything possible to exterminate these pests.

H. G. BODLE, State Veterinarian.

GOOD WORK OF THE GOVERNMENT'S TRAPPERS

The picture on this page was taken on J. L. McKinney's ranch near Fairfield, Utah. Considering that there is no water within a radius of fifteen miles of Fairfield, the trappers have been very successful in this locality, having caught about twenty coyotes in ten days.

These men are using scent and also bait, which is being furnished them by

the stockmen. The poisoned baits kill a great number of coyotes that are never found. Mr. Geo. E. Holman, who appears at the right of the picture, has a number of hunters throughout the state, and he reports that they are all doing fine work.

It is Mr. Holman's intention to have these men work out onto the desert and camp near the watering places. The stockmen can render great assistance to these trappers by furnishing them bait and by directing them to the watering places.

Mr. Wilford Nelson and his son, who are in the photograph, have been trapping for a number of years, and the other men under the supervision of Mr. Holman have been doing likewise.

J. McKINNEY, Fairfield, Utah.

PROBLEM OF WOOL STORAGE.

(Consul Augustus E. Ingram, Bradford, England, Sept. 30.)

The congestion of wool at the London Docks is a matter that has been engaging considerable local attention. It is said that conditions resulting from the war have greatly increased the amount of wool sent to England from the colonies. Practically the whole of Germany's supply from Australia and New Zealand appears to have been diverted to this country, and according to an Australian estimate during the past seven months approximately 1,500,000 bales have been landed in the Port of London alone.

HOW THE GRAND CHAMPION AND CHAMPION CAR LOTS OF SHEEP AND LAMBS AT THE PANAMA-PACIFIC EXPOSITION WERE FED.

As we have had numerous inquiries from Western sheep men as to how the two cars of sheep and lambs that won such high honors for us at San Francisco were selected, fed and handled, we believe it would be interesting to a good many persons who have embarked into the sheep and lamb feeding business in the Western country as a means of marketing their surplus crops in the shape of live mutton, and also to a good many range men who are now making arrangements to finish their light tail end lambs here in the West rather than to ship them down to the Eastern markets where they are compelled to accept what is offered for them. To these men it is highly important to know which breed of sheep responds more readily to the grasses and grains that are produced here in the West, thereby making the most economical and rapid gains for the amount of feed consumed, and also what feed is necessary and best to produce the most desirable ration for the fattening of sheep and lambs.

Our firm breeds and raises nearly all the different breeds of sheep common to our Western country, we have fed and exhibited car lots at practically all the leading shows throughout the country. Our car lots have always been placed first except once, that time we took second with a car of Oxford-Rambouillet cross bred lambs at the Chicago International. And that is the only time that we did not fit Shropshires. So when the time came to make our selection for the Panama-Pacific Exposition, we turned with confidence to the Shropshires.

In the latter part of December, 1914, together with the shepherds, the writer took from a flock of purebred Shropshire ewe lambs which were ranging out in about six inches of snow at that time, some ninety head of the smallest of ewe lambs which had been dropped the latter part of the preceding March.

No attention had been paid to type or markings, they were picked for uniform small size only.

They were taken to the home ranch where within a few days, they learned to relish alfalfa. Then a small grain ration was introduced. This ration consisted of oats and bran. Within about three weeks, they were eating around one pound each per day. At this time we began reducing the bran, and substituting chopped barley. When this change had been completed, the barley was slightly reduced, and a little cotton seed or oil meal was added. They remained on this ration until April 25, 1915, when they were turned onto a wild grass pasture. The grass then substituting for hay. During the summer months, no attention was paid to them, except to gather them in at night and give them their grain.

About September 1, when the weather began to be cooler, they were again taken to the home ranch and placed on alfalfa. And now the grain ration was changed. Up to this time the oats comprised one-half the ration, now the oats were reduced, and the barley was increased, but weight of ration remained the same until about October 1st.

At this time our cotton seed meal became exhausted, and as we could not procure another supply, we were compelled to substitute field peas.

During October, we increased the grain and decreased the hay, but at no time did the ewes receive as much grain as they could have eaten.

On October 25th we loaded these ewes for San Francisco, as the car lot class called for 50 head only, we penned them up and made ready to take out the thinner ones, but to our delight we found that there were no thinner ones to take out. This remarkable lot of ninety yearling ewes were all ready to go. It then became a matter of taking out the larger ones, that had rather outgrown their sisters, there by evening up the fifty head, until they all looked alike and were as even a lot as to weight and type as any one could wish to see.

They weighed 172 pounds each the day of loading at home, and would

have weighed 180 pounds the day they were awarded the Grand Championship at San Francisco.

There were several car lots there on exhibition. Among our competitors were Hampshires, Grade Southdowns, and Shropshires, but there was only one car lot there that gave them any run for the Grand Championship, and that was our car lot of purebred Shropshire wether lambs which was first and champions in the lamb classes, and which were bred, fed and exhibited along beside the yearling ewes.

These lambs were handled practically the same as were the ewes, and were finished on the same kind of feed. The lambs were dropped from the 15th to the 20th of March, and though I cannot say positively I believe these were the youngest lambs on exhibition, though they were twelve pounds heavier than any other lambs there.

These lambs were sold at auction on the fair grounds at San Francisco the day they were judged. They averaged 122 pounds each, and were bought by the Western Meat Company at twelve and a quarter cents per pound.

Out of this car lot of lambs we selected the three lambs that stood first, second and third, first and champions in pen of three wethers, and the Grand Champion wether of the show over all breeds.

Is there another breed of sheep in the U. S. whose admirers can point to a record equal to the above?

H. L. FINCH, Soda Springs.

FROM ROSWELL, NEW MEXICO

Enclosed find check for \$5.00, being payment for the dues of Pete Louisena. Please send him the National Wool Grower. I expect to get two or three more members in the next month or so.

Sheep are going into winter in good condition in this section and all look for a prosperous year. I have just sold 1800 Rambouillet ewes to be delivered December 20 at \$6.50 per head. In age they range from yearlings to five-year-olds.

JAFFA MILLER, New Mexico.

Sheep Market Events of a Year

By BEN D. COOK

THE year of 1915 has been one of more or less erratic markets.

Prices, however, have been such that both feeders and range men in most cases have worn happy smiles.

For the first six months we find a decrease in sheep receipts at ten markets of 1,554,031 or 22.63 per cent. During this period prices reached over and above previous records on both woolled and shorn lots. The latter part of May woolled Colorados reached \$11.85 per cwt. and in June shorn lambs from the same state reached \$10.85 per cwt. A larger percentage of Colorados were marketed at the River points, due to quarantine regulations at Chicago. Many Eastern orders for killers were filled in Omaha, Kansas City and St. Joe, benefiting those markets with outside competition. Colorado shipments also reached the Buffalo market, woolled lambs reaching \$10.90 per cwt.

The Kentucky and Tennessee lamb crop was not up to previous seasons in numbers at least and the direct shipments to packers at Chicago from Louisville, Ky., and Nashville, Tenn., did not have the depressing effect on the market as has been the case in many seasons. For the last period of the year we find a continued decrease in receipts at the six markets and for the eleven months or until December first we find 1,979,057 less than 1914.

California lambs reached the Omaha market early in June, selling up to \$11 per cwt., the first shipments of Idahos also reached that point on June 7th and sold at \$11.75 per cwt., averaging 62 pounds, surely a great price for rangers, especially in comparison with the first shipment from the same state in 1914, when on June 12th, lambs sold at \$9.40 per cwt., averaging 71 pounds. The first shipment of Idahos reached the Chicago

market Monday, June 21st, averaging 62 pounds, and sold at \$9.75. This showed a fair margin above 1914 when the first shipment at Chicago sold at \$9.35 per cwt., averaging around 65 pounds.

Shipments from the ranges moved freely after July 1st and prices ruled high and good net returns were made; in fact, it is safe to say that Western sheepmen obtained very satisfactory net results. Wool buyers were out early in the field and prices averaged considerably better than 1914.

Record prices for range lambs were made when the first Idahos sold as above mentioned in Omaha at \$11.75

lambs sold at \$9.50 per cwt., and on Monday, July 19th, the extreme top for best lambs was \$8.00 per cwt.; this price ruled throughout the week. On Monday, July 26th, with the first large run of rangers of the season, buyers early stood pat at \$8.00 per cwt. Fortunately a number of Eastern killing orders developed and buyers were forced to come across with 15 to 25 cents higher bids, best lambs reaching \$8.25 per cwt. The trade improved all week and the first day of the following we find packers paying up to \$9.30, with the bulk selling around \$9.20 to \$9.25 per cwt.

The shipment of aged sheep, wethers especially, was not large at any time during the season, Montana wethers reaching \$7.00 per cwt. during the season at Chicago.

Strong support was given the River markets by feeder buyers; in fact, the trade has never before seen prices so high at this season of the year. Feeding lambs reached \$8.70 per cwt., in Omaha; aged sheep and yearlings showed corresponding strength. A large demand for breeders developed and many demands went unsatisfied. Young ewes of all classes and

breeds were as scarce as "hen's teeth," ewes being taken as breeders that would have been passed by in other years.

Many lambs and also sheep were contracted on the range to go direct to the feed lots. We find some early contracts made in Wyoming for lambs around \$6.00 per cwt., by Colorado feeders. Later, however, the same class of lambs found ready outlet from \$6.25 to \$6.50 per cwt., and from New Mexico we hear of some up to \$7.00 per cwt. The same conditions prevailed in Montana, lambs going to Eastern feeders early around \$6.00 per cwt. Later,



LINCOLN RAMS OWNED BY WEBB & SONS LINCOLNSHIRE, ENGLAND

and in Chicago the latter part of June at \$10.90 per cwt. The trading many days was most trying to both shippers and salesmen. With no outlet for feeders in Chicago, everything at that point had to be disposed of for slaughter purposes, and with Eastern killers out of the market, as they were many times, owing to quarantine regulations, buyers often had it pretty much their own way and many slow markets developed. The period between July 1st and August 1st will be long remembered by both shippers and salesmen. Declines of 25 to 40 cents per cwt. per day were common. On July 12th, best range

however, \$6.25 to \$6.50 per cwt. was freely paid. Thousands, no doubt, were bought by the head that would figure considerably above the latter prices if they had been sold by weights.

During November in Chicago thousands of lambs were marketed that should have been longer fed. Many of these lambs, of course, were forced to market by bad weather, as but a small percentage of the feeders in the corn-belt have shelter for their lambs, it being the custom to run the lambs in the corn fields. Lambs of excellent quality but not fat sold at disappointing prices to their owners, selling from \$7.00 to \$8.50 per cwt., and in most cases the lambs cost more when they were bought.

The future for the raiser looks indeed good. The consumers are learning that beef and pork are not the only meats and the demand for mutton grows each year.

AROUND GILLETTE, WYOMING.

Rarely, if ever, have we had nicer fall and winter weather in this section of Wyoming than has prevailed for the last six weeks. First, three weeks of typical "Indian Summer" and then three more of crisp clear winter weather. Around Gillette there has been plenty of snow for stock since the middle of November, but from the Belle Fourche south, down to the tributaries of the Cheyenne River, where most of the sheep in the locality are ranged, there has been no snow to speak of, and the sheep have to be brought to water every other day. This gives extra work in the way of chopping ice and keeping watering places open besides keeping the sheep on rather poorer feed than if they could be further out among the hills. However, none of us can remember losing sheep through having too little snow while we all have been walloped pretty hard in the last four or five years from a super abundance of the article, so we are not grumbling much yet.

This has been a most remarkable year for precipitation. From May first to November first we probably

had more rain than in the same length of time in any other two years and in consequence there was plenty of moisture in the ground when it froze up and many of the creeks are running quite a stream that never ran water before at this time of year. The sheep men are figuring on early grass and most of them have put the bucks in the herds rather earlier than usual. Lambing will start in this section from the middle of April on and few of the sheepmen delayed putting in their bucks later than December first. As a rule lambing has started in this country from May first to fifth. If we have reasonably good weather in the latter part of April and early in May there should be an abundance of good heavy lambs for the market from this section next fall. Conditions certainly never looked better for a profitable year in the sheep business than at present and a general feeling of optimism prevails.

E. P. SPAETH, Wyoming.

ADVICE TO NEW ZEALAND WOOLGROWERS

A New Zealander by the name of J. R. MacDonald, who has been considered an authority on sheep and wool growing in New Zealand, has very recently published a book entitled "New Zealand Sheep Farming Wool and Mutton and Pastures." In that book the only instructions concerning the preparation of wool for market of the farmer's flock is contained in the following statement:

"The shearing shed should be cleaned out, so that no rubbish gets mixed with the wool, to depreciate its value. If the sheepyard is not paved, the grass be allowed to grow before shearing, so as to avoid dust. Dust spoils the appearance of wool. Sprinkle water to keep it down where necessary.

"The sheep should be dry or shearing should not be proceeded with, and when the weather is inclement the shelter of trees, etc., is a great comfort to newly shorn sheep, and often saves the lives and health of many.

"The wool table, about 7 ft. by 5 ft., is made of battens about 1½ inches

wide, with a space of about ½ inch between each, to permit the locks or second cuts to fall through. When the fleece is placed on the table, out side uppermost, the stained and fribby pieces should be taken off the edges, and after shaking the fleece to rid it of dust and short pieces, it should be rolled from the breech to the neck.

"When the flock is small, this is all the wool classing that is necessary. When a fleece is decidedly below the standard of the flock, or is dirty, it can be pulled to pieces and thrown in with the short pieces."

GROUND FEED FOR LAMBS.

The success of the feeding methods used at the Santa Fe yards at Emporia, Kans., and at the yards of the Emporia Elevator and Feeding Company has attracted a great deal of attention. Some sheepmen have reached the conclusion that these feed yards have adopted the quickest and surest method of putting gains on sheep. They use ground alfalfa and ground corn, mixed in proportion of half and half, and fed in self-feeders. This mixture is before the sheep at all times after they are on full feed. However, they are started out with a mixture of 2 parts hay to 1 part corn.

The sheep are crowded into pens so that they have just enough room to move around and lie down. To many people this would seem a disadvantage, but it has proved beneficial. Clean, pure water is kept in a trough in the center of the shed. In several instances these yards have put a half pound a day on lambs that had had some feeding at a cost of less than 5½ cents a pound. When lambs are bringing around 9 cents, this looks like pretty good business.

These yards include in their equipment a large alfalfa mill, and a corn grinder. There is now on the market a combination outfit which will grind anything, manufactured especially for elevators, stock raisers, and feeders, which can be operated very successfully with six to ten horsepower, and is sold for a moderate price. Attracted

by the possibilities of this method, as evidenced by the results obtained with his own lambs at the public feed yards, one of the big feeders of Great Bend, Kans., is considering the installation of a grinder at his farm. He has four hundred acres of good alfalfa and corn land. If this project is carried out, it will attract a great deal of attention, as this will be the first privately owned farm plant of its kind in this part of the country.

J. C. KNOLLIN, Kansas City.

GOOD RAM SALES.

Your favor of November 4th received, kindly continue my advertisement for one year, for which I enclose you check. Will probably want to change cuts occasionally as there are lots of material to draw from, and will gladly pay any extra cost entailed thereby.

Have had very encouraging sales following the last two issues of the National Wool Grower. Have sold during the past month 100 Merino rams to Mr. Frank Hudson, Lander, Wyoming, 75 Merino rams to Mr. Arthur Croft, Lander, Wyo., 30 Merino rams to Mr. George Taylor, Tenseap, Wyoming, 55 Merino rams to Mr. Charles Wells, Nowood, Wyo., 25 Merino rams to Mr. Henry Hillberry, Dickie, Wyo., and have bought two Merino rams from the Baldwin Sheep company, Oregon, and four head of the John D. Holliday Merino rams from the Escallier Sheep Company, Montana, one of the latter taking the grand champion prize over all the other breeds at the Helena State Fair.

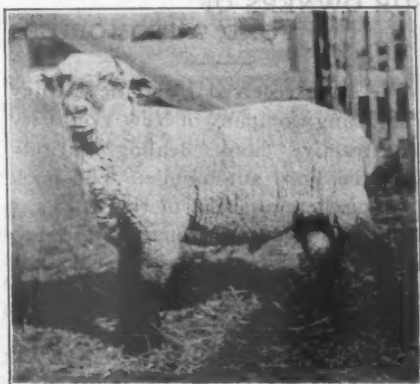
Other sheep sold by the L. U. Sheep Company this fall were 2000 broken mouthed ewes averaging 104 pounds delivered at Worland, Wyoming, 5200 wether lambs averaging 60 pounds delivered at Worland, Wyoming. And sold to Fred Bragg, Nowood, Wyoming, 3300 breeding ewes, and 1000 ewe lambs at an average price of \$5.75 per head, and 500 cut back ewe lambs averaging 45 pounds to Emil Faure at 6 cents per cwt.

L. U. SHEEP CO., Dickie, Wyo.

SHEEP ON WINTER RANGE IN UTAH

A few items of interest relative to the sheep industry of Wayne County may be of interest to the readers of the National Wool Grower.

The future prospects of the business in this section of the country look good. Earlier in the season there was considerable anxiety on the part of sheep owners, fearing that they would experience heavy losses on the winter range this winter, as we do not feed, and there were so few storms during the summer. As a result they culled out and sold all the old sheep, trimming the herds in good shape, so that when they went on to the winter range this year, the sheep are doing



A SCRUB RAM — HUNDREDS OF THEM SOLD IN UTAH THIS YEAR.

better than usual. Most of the sheep are in good flesh.

Our mid-summer range was favorable to the sheep this year, but the fall range was poor, we had no storms, and as a result feed was dry and short. This made our lambs light at selling time, most of the growers not realizing as much money for them as they should.

There are no sheep here for sale now. Some new men have been going into the business, but not many, as it is hard to crowd more on to the reserves.

We border on two reserves, the Fish Lake and Powell, where our sheep graze in the summer months. For winter our range is in the eastern part

of Wayne and Garfield counties, which is mostly a broken sandstone formation, where feed grows late in the fall and early in the spring. To reach this country, we trail from 40 to 100 miles from the summer district. Our best winter feed is reached after snow falls when we do not have to trail in to water.

The general outlook here is good. One thing that would help us would be a closer study of the business. We have good sheep to build on.

GEORGE C. BRINKERHOFF, Utah.

FROM EASTERN OREGON.

The November number of the Wool Grower has been read with interest and profit to the writer.

The sheep year ending September 30th goes on record as the most successful and profitable for Oregon sheepmen in many years. Weather conditions over the state were generally good and prices strong throughout the year.

Since October the first the sheep districts of Oregon have suffered from drought. We have rain and snow the past week which with the extra feed that has been provided should put the flocks through the winter without loss.

The Columbia Basin Wool Warhouse Company has assisted the local banks in making finances easy throughout the state, and the hard times of 1911-12-13 are being forgotten.

In some localities the number of sheep have been reduced the past five years thirty to forty per cent, but it is believed the state is carrying about the same number of sheep as last year. Many of the ewes, however, are of advanced age and there is really a shortage of good breeding stock. The number of sheep and lambs in the mutton feeding pens is believed to be short as compared with recent years.

Many wool growers who attended the state convention stated that they would be at the National to be held in Salt Lake City in January.

J. H. DOBBIN, Oregon.

HOW WHISKEY "GOT MY GOAT"

You ask me why from "Wet" to
"Dry,"

My ideas have been changed.
Just listen, Stranger, to my tale,
You will not think it strange.

I was a Live Stock Agent once,
For the old "Milwaukee" Road;
My duties were to rustle sheep,
And help the men to load.

We had to load them on the cars,
And oh, the things we said
When some old "pelter" stubbornly
Refused to go ahead.

One day I bought and trained a goat
To lead them up the chute,
And took him on the road with me.
He surely was a "Beaut."

Old "Bill" and I became fast friends.
We traveled far and wide;
And every where I had to go,
The goat was at my side.

He'd stand beside me at the bar,
His feet upon the rail,
And from a bottle he would drink
And shake his stubby tail.

Whene'er he'd see me drinking,
He would come with neck out-
stretched,
And look up sadly in my eyes
As if to say "I'm next."

One day to Murphy town we went,
Old Bill was on the job.
When he saw some herders drinking
From a jug of "Forty Rod."

He came and stood beside the men,
His neck outstretched so cute,
And they poured the whiskey down
him
And he lay down in the chute.

I knew not what had happened
When we started loading sheep,
And I prodded poor old "Billy"
As he lay there fast asleep.

He staggered up and shook himself,

And started up the chute,
And I wondered what the devil
Was the matter with the brute.

For he staggered up the gangway
And he tumbled in the car,
And he acted like some other brutes
I've seen before the bar.

'Twas the last time that he ever helped
To load a car of sheep,
For he staggered down the gang-
way
And dropped lifeless at my feet.

And, Stranger, since that fatal day
No liquor's passed my throat.
I'm one of whom it might be said
That, whiskey "Got My Goat."

P. J. PLAISTED.

**FOR OWNERS OF
FORD AUTOMOBILES**

We have received from the Henley Publishing Company of New York City an attractive book dealing entirely with the Ford automobile. The book is a complete analysis of the Ford car and gives every instruction for running and repairing the same. It sells at \$1.00 and should prove of considerable value to those who own Ford cars and are so situated that they cannot reach an expert machinist to make their repairs.

**SHEEP INCREASE IN
NEW MEXICO**

The sheepmen are resting up after delivering their lambs, and are now waiting to see what turn the winter range is going to take. The wool and lamb prices were very satisfactory and the sheepmen are well pleased with this year's business, and a great many of them buying more sheep and going in heavier than before.

We had an excellent summer with plenty of rain, but September, October and November have been very dry, and also very warm. What the range needs most here now is snow.

However, the sheep were in excellent condition as the result of a good

summer and on account of a warm fall they have been doing fine to date.

Water is scarce, but there is enough feed and water to insure the sheep plenty of both this year, but with a little snow to help out and it has been very stormy here the last few days, the sheep will do fine this winter. The sheepmen are in very good spirits.

CHAS. CHADWICK, New Mexico.

AROUND DOUGLAS, WYO.

Had a little winter here last week, but now it is quite warm for this time of year. Sheep doing well. Two outfits east of here sold out this fall at \$6.50 per head for the ewes; they have bought cattle since. No increase in sheep in this country. Too many settlers taking up the range to promote the sheep business. The wools here which have been held all summer have moved within the last two weeks, at 23 to 24 cents, going to Harris at St. Louis, and to Silberman at Chicago. Prospects for sheep look good for a time. Wool can hardly fail to maintain present levels, if not advance, and with business improving mutton will be in demand. Many here contracted their lambs early last spring, and did not accumulate anything in the transaction. Lambs were very good here this year, as grass was good, and the weather cool, which makes lambs grow. Herds well sold down, and some ewe lambs were marketed. Feed good, and sheep going into the winter in fine condition.

ROSCO WOOD, Wyoming.

HOW TO KILL COYOTES.

Mr. Joseph Markson has advised us that in 21 days he killed 72 coyotes by catching them on baited hooks. He takes a large shark hook and hangs it from a stout cord about 4½ feet above the ground. To this hook he ties some kind of a meat bait. The coyote jumps for the meat and gets caught on the hook. He claims to have taken three coyotes in a night on five hooks. This plan has been reported to us twice before, but we have had no personal experience with it.

DEFINITION OF TERMS RELATING TO SHEEP PELTS

You asked me to give you the meaning of the various terms applied by purchasers of sheep pelts, and we are glad to do so.

"Dry Flint Full Wool Pelts" are pelts that are taken off during the winter months or in the spring before shearing time and then dried in the air or sun. The words "full wool" mean the pelts with the full length of the wool on.

"Dry Flint Short Wool Pelts" are pelts that are taken off usually between the months of August and October and dried in the air and sun, but the wool is much shorter than in the full wool pelts.

"Dry Flint Shearlings" are pelts taken off of sheep from one to three months after shearing. They are dried in the same manner as the other pelts, but the wool is very short.

"Dry Flint Clips" are pelts that the wool has been shorn from the sheep or clipped from the pelts after it has dried. This clipping is done by placing the pelts over a barrel and shearing it the same as you do a sheep. The wool that comes off such pelts has to be sold as dead wool so it is more profitable to leave the wool on the pelts.

It is not generally known that shearlings, pieces and clips sell for two-thirds the price of the full wool pelts, and at the prices pelts are bringing now, it pays a person to save all the pieces of pelts for these pieces are bringing fourteen cents per pound when dried.

"Green Salt Pelts" are mostly confined to butchers and packers, this being the only way they can cure them, and it is really the best way for it preserves the leather stock more than drying them in the sun. The dry flint pelts that are dried in the sun break and crack more or less, which makes some difference in the value of the pelts. The untanned skin just after the wool has been pulled off is worth about 40 cents on the average. Here in Kansas City we handle a great number of all kinds of pelts. They are

selling in any size lots around 21 cents per pound for the dry flint pelts with open and medium wool pelts and choice lots selling for one to two cents per pound more. Green salt pelts are selling from 75 cents to \$1.50 each according to the amount of wool they contain.

C. J. MUSTION,
Kansas City, Missouri.

SHEEP ON FORT WORTH MARKET.

The receipts of sheep on this market during November, 1915, were 12,748 head. This amount, you will notice in referring to our enclosed monthly report, is somewhat under the receipts for the same period in 1914. The sheep and lamb market was considered good and active in November; with the receipts never up to the demands.

I am enclosing a clipping from our Daily Live Stock Reporter, which will no doubt be interesting, as it shows the range of prices offered for sheep and lambs during November:

Sheep—			
November 6	.....\$5.75	\$5.50@5.75	
November 13	.....6.50	6.00@6.50	
November 20	.....6.25	6.00@6.25	
November 27	.....5.90	5.75@5.90	
November 30	.....6.50	6.00@6.50	
Lambs—			
November 6	.....8.25	7.00@7.50	
November 13	.....8.00	7.00@8.00	
November 20	.....8.00	6.00@7.00	
November 27	.....8.00	6.00@7.50	
November 30	.....8.00	6.00@7.50	

AROUND TIFFANY, COLORADO.

Both the summer and the winter ranges have been good this year notwithstanding the dry season. Every sheepman I have talked to has remarked how well the sheep are doing. All the lambs and ewes came down from the summer range in excellent condition, and the lambs that were shipped from here outweighed those of last year. Up to the present time very few lambs have ever been fed for the market in this locality, although this year farmers with extra hay and grain are feeding light lambs for the early spring market. Alfalfa hay is cheap,

the average price being \$5.00 per ton.

The coyotes seem to be thicker this year than last. The Government has a man employed poisoning them. There are also a good many trappers.

The next wool crop will be better than the last as the sheep are of a better breed each year, and from present indications there will be more than years before. There are more sheep and better sheep in this territory than there have been before for a long time. Several train loads of sheep having been shipped in from the Arkansas Valley.

HUGH LINEBARGER, Colorado.

*When writing to advertisers please mention the
National Wool Grower.*

FULL MARKET FOR SHEEP PELTS

We are the only strictly commission house in Kansas City, so in order to get full market prices for Wool and Sheep Pelts, consign your shipments to us. Shipments sold on the **Open Market** on their **Own Merits**. Quotations gladly furnished. Correspondence solicited.

C. J. MUSTION WOOL COM. CO.

1741-1743 Genesee St., Kansas City, Mo.
Opposite Stock Yards.

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We are breeding big, smooth bodied, heavy woolled, open faced Merino Rams. 700 yearlings for next season.

L. U. SHEEP COMPANY
DICKIE, WYOMING

RAMBOUILLETS

Stud Rams Range Rams

We have for sale 350 Yearling Rambouillet Rams. These rams are large, smooth, well covered with long staple wool, are raised at a high altitude and are very hardy. Our foundation Ewes are from the choicest American flocks.

J. P. VAN HOUTEN CO.
Shoemaker, New Mexico

SHROPSHIRE EWES

bred to the very best bucks obtainable for sale in lots to suit purchaser. All stock recorded.

L. M. HARTLEY, Pine Ridge Farm, SALEM, IOWA



Some of My Stud Rams.

I offer for the next season 500 registered and unregistered Rambouillet Yearling Rams, which are of highest quality. My foundation ewes cost me \$80.00 per head and I am using imported registered stud rams from the world's best flocks.

I also offer a large number of registered and purebred unregistered Rambouillet ewes.

FOR PARTICULARS ADDRESS

J. K. MADSEN, Mt. Pleasant, Utah

Rambouillets



Rams Ewes

We have for sale a large number of registered and unregistered Rambouillet Rams. Also a limited number of good ewes.

W. D. CANDLAND

Mt. Pleasant,

Utah

WOOL MUTTON

RAMBOUILLETS



My Champion C. Type at San Francisco.

My Rambouillets are big and well covered with dense fleeces. I am breeding Rambouillets suited to give best returns on the range. Write me for prices on Registered Stud Rams or on Rams for Range Use. Will sell in lots from one to a carload.

R. A. JACKSON,

DAYTON,

WASHINGTON

CONFERENCE ON FOOT AND MOUTH DISEASE

The Secretary of Agriculture called a conference in Chicago of all parties interested in the subject of Foot and Mouth disease for November 29 and 30. President Hagenbarth and Eastern Vice-President Knollin represented the National Wool Growers Association at that meeting. Secretary T. W. Tomlinson represented the American National Livestock Association. These gentlemen presented the following resolution for the consideration of the conference:

Whereas, This country has suffered from a most serious outbreak of Foot and Mouth disease, which already has been the cause of enormous financial loss to our livestock industry, and measures to control and eradicate said disease have been of great expense to the federal and state governments; and

Whereas, In every instance where said disease has appeared in the United States investigation has proved that it was brought in from some foreign countries, and in the present outbreak grave suspicion is directed toward animal products that have been imported from Argentina where the Foot and Mouth disease is prevalent; and

Whereas, The importation of dressed carcasses of animals, hides, wool and other animal products from Argentina, Australia or any other foreign country where highly infectious diseases exists is a grave menace to the livestock industry of the United States; therefore be it

Resolved, That this conference relative to the Foot and Mouth disease held in Chicago, November 29 and 30, 1915, vigorously protests against the importation of dressed meats, hides, wool and other animal products from countries where dangerous infectious diseases of animals exist; and be it further

Resolved, That we petition the Honorable Secretary of Agriculture to adopt such regulations as will serve to close the channels through which

such diseases are liable to be carried into the United States from foreign countries.

LOW RATES ON UNION PACIFIC FOR NATIONAL MEETING

Referring to your letter of December 6th, relative to the fifty-second annual convention of the National Wool Growers Association, which is to be held at Salt Lake City, January 13, 14 and 15, 1916.

I am pleased to advise you that account this meeting, we will issue tariff naming the following rates, dates of sale, and limits:

Fares, one fare and one-third for the round trip except as follows:

\$20.00 from Cheyenne via U. P. System direct in both directions.

\$22.50 from Cheyenne, Ft. Collins, Boulder and Greeley via Denver.

\$22.50 from stations Denver to Carr, inclusive.

Dates of sale: From all stations on the Union Pacific in Colorado and from Cheyenne, Hillsdale, Burns, Egbert and Pine Bluffs, Wyoming, January 11 and 12, 1916.

From all other stations on Union Pacific in Utah, January 10, 11, 12 and 13, 1916.

Final return limit January 23, 1916, except that tickets from Utah stations will be limited to January 17, 1916.

Stopovers to be allowed in one or both directions within limit.

Trusting that the above will be satisfactory and that you will have a very pleasant meeting at Salt Lake City this year, I beg to remain

W. S. BASINGER.

BOOK ON TRAPPING COYOTES.

We have been sent a book under the title "Wolf and Coyote Trapping," which is published by A. R. Harding, Columbus, Ohio. The book seems to contain a good deal of valuable information for those interested in catching wolves or coyotes. The price of the book is sixty cents, and those who desire it may secure it by writing to the above address.

ALONG THE COLUMBIA RIVER, WASHINGTON

The condition of the range is very poor. We have no green grass on account of no early rains, and now it is pretty late for the grass to grow. I have been feeding my sheep since they have been on the winter range. I think a great many are feeding their stock sheep just enough to keep them in good condition for wool and lambing. I sold 35 tons of wheat hay today at \$15.50 per ton loose in the stack, and a few days ago I bought clover and alfalfa for \$10.00 per ton loose in the stack.

So far my losses from coyotes have been much lighter than last year, but there seem to be a great many coyotes. I don't think there are many coyotes being killed in our section as there is no bounty, and the trappers don't hunt very much for them.

I think the outlook as far as I can see now is very good, and I think there will be a little more wool in this sec-

tion of the country than last year.

I attended the woolgrowers' meeting at North Yakima last week. They held a very good and interesting meeting.

HORACE A. WHITE, Washington.

A NOTABLE PUBLIC SALE.

Under the auspices of the American Hereford Association a public sale of Herefords was held at Kansas City, Missouri on October 8th. At that time 45 head of cattle were sold and made the remarkable average of \$1,005 each. Of the number, 29 were bulls and averaged \$1,130 each and 16 were females and average \$780 each. The highest price of the sale was \$5,000 paid for a two-year-old bull. We believe that this is the most notable sale held in America in the last quarter of a century.

We expect one thousand progressive sheepmen to attend the annual convention of the National Wool Growers' Association in Salt Lake City, Utah, January 13, 14 and 15.

Association in Salt Lake City, Utah, January 13, 14 and 15.

EWES FOR SALE

One carload of extra choice
unregistered
Rambouillet Ewe Lambs.

W. D. CANDLAND

MT. PLEASANT,

UTAH

Messrs. HICKMAN & SCRUBY, Court Lodge, Egerton, Kent,
England

Export Pedigree Livestock

OF ALL DESCRIPTIONS

Specialty made of show herds, show flocks,
show horses for the Panama Exposition.

Livestock is booming in North America, there is nothing to hinder importations required for exports from England, and the extra cost of insurance, freight, etc., is too small to make any difference.

Send for full particulars at once, if in a hurry, enquire by week end cabled letter. Americans ought to be importing bulls and rams by hundreds and we want to get busy.



TWO VIEWS OF THE CHAMPION SHROPSHIRE FLOCK AT THE PANAMA EXPOSITION, OWNED BY KNOLLIN & FINCH, SODA SPRINGS, IDAHO.

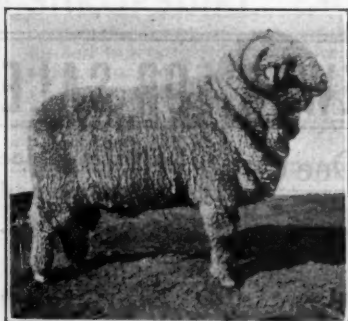
Although we are practically sold out this year, it is not too early to book orders for next season. There are never enough to go around.

REMEMBER THAT "A KNOLLIN BUCK BRINGS GOOD LUCK"

KNOLLIN & FINCH

PURE BRED SHROPSHIRE

SODA SPRINGS, IDAHO



One of Our Stud Rams

NOTICE!

We desire to advise the public that we have sold every ram we had to offer this season. Our sales this year were 1000 Yearling Rambouillet rams, 400 Lincoln-Rambouillet rams, 350 Hampshire ram lambs.

For next season we will have an elegant lot of Rambouillet and Lincoln-Rambouillet Yearlings.

**Cunningham
Sheep &
Land Co.**
Pilot Rock, Oregon

RABIES IN NEVADA AND CALIFORNIA

In the October number of the National Wool Grower, we wrote a rather detailed report concerning the prevalence of rabies among the coyotes of certain northwestern states. In that report we commented upon the seriousness of the situation and predicted that in the near future hydrophobia would spread as far south as Mexico. In confirmation of this thought we are receiving numerous reports from the state of Nevada regarding the prevalence of hydrophobia among coyotes of that state. Our advice is that at the present time twenty-four people are under treatment in Reno, having been bitten either by a rabid coyote or by a dog, which had been bitten by a coyote. The situation has been very bad in Nevada and north of Winnemucca a rabid coyote has bitten a large number of steers, twenty-three of which died in one herd from hydrophobia.

The disease has made its appearance in Northern California in Modoc and Lassen counties and a considerable number of livestock as well as several people have been bitten in that section. In fact the situation in these two counties became so acute that the government has placed nine hunters at work in those counties and the state has put twelve additional men to work.

In all these states the reports indicate that the rabies is first introduced by the coyote, which in turn infects the dogs. A gentleman recently from the state of Nevada to whom we talked assures us that rabies will have spread over much of the state of Utah before next spring, and we see no reason why it should not.

We want to call the attention of sheepmen and cattlemen to the importance of this disease, and if in the past they have never had sufficient incentive to destroy coyotes, the menace which this disease offers to human life should make them mighty active in assisting in a campaign to destroy coyotes. Some of these stockmen who have never turned a hand to destroy

coyotes in their immediate vicinity may become the victim of this very coyote by being bitten himself or what is worse having some member of his immediate family bitten.

THE SHEEP SHORTAGE STATISTICALLY.

The extent of the sheep shortage is indicated by statistics of receipts at the principal Western markets. The November run was swelled somewhat by liquidation due to nervousness among the feeders, and soft corn supply of that month was considerably in excess of a year ago. Details follow:

	Nov. 1915.	Nov. 1914.	Inc. or Dec.
Chicago	372,361	271,309	+ 101,052
Kansas City ..	164,281	161,215	+ 3,066
Omaha	273,683	233,582	+ 40,101
St. Louis	58,293	39,329	+ 18,964
St. Joseph ...	54,242	46,989	+ 7,253
Sioux City ...	51,700	70,507	- 18,807

Totals 974,560 822,931 + 151,629

The shortage is indicated by receipts at these markets during the first eleven months which follow:

	1915	1914.	Inc. or Dec.
Chicago	3,164,480	4,909,668	-1,745,188
Kansas City..	1,689,124	1,890,960	- 201,836
Omaha	3,055,483	2,954,787	+ 100,696
St. Louis ...	597,463	709,324	- 111,861
St. Joseph ..	807,864	770,228	+ 37,636
Sioux City ..	297,700	356,204	- 58,504

Totals 9,612,114 11,591,171 -1,979,057

Chicago's shortage is actually less than the figures indicate, as practically the entire feeder movement was either diverted to Omaha or around Chicago. For the same reason, quarantine, thousands of feeders went direct from Montana and other sections of the breeding ground to the cornbelt states.

CONDITIONS IN NEVADA.

A woolgrower from Reno reports to us as follows: "So far this winter we have had very little snow in Nevada, in fact not sufficient to make the range fully available in the western part of the state. If anything, we should say it lacks somewhat in moisture, and the range is rather dry, but it is early in the winter yet, and with average con-

ditions we will come through in fine shape.

"I do not believe that there are any more sheep in Nevada now than there were a year ago. Some of the flockmen held over some of their ewe lambs, but they all had lots of old ewes on hand; they were marketed, so there is no reason to believe that we have any increase of sheep in this state. In fact there is no room for any more sheep unless they should take range that is now used by cattle. The business in Nevada is not on as good a basis as it is in most of the other states for the reason that many of our sheepmen here own no land at all. Our banks have backed a lot of Basques, who trail back and forth across the country without regard to anybody's rights, and this brings the sheep business of the whole state into ill repute with the farmers and stockmen. In Nevada we have a law which requires a man to pay a license of five cents for each sheep that he runs in the state, but for every acre of deeded land that he owns, two sheep are exempted from this tax. Some of our best sheepmen own sufficient land so that they do not have any tax to pay, and it is the man who owns no lands and really has no right in the state that has to pay the tax. I do not believe the best sheepmen in Nevada would favor a repeal of this law."

GERMANY BUYING WOOL.

While German shipping has been entirely driven from the seas, and one is at a loss to understand where Germany is obtaining her supplies of wool, yet the fact remains, that today German buyers are the most active competitors in the wool market of South America. When American buyers went south last month to purchase the crossbred wools of the Argentine, many of them were under the impression that they would have things their own way because Germany was not expected to be a purchaser. On arrival in the Argentine, every American buyer found that Germany had been there ahead of them and had contracted on the sheeps' back a fairly large portion of the clip. This

has resulted in Argentine wools now selling at a higher price than ever before and at a price from two to three cents per pound higher than last year's clip commanded. It is not known whether the Germans believe this wool that they are buying in the Argentine can be transported to Germany at the present time. Many believe, however, that the Germans are simply buying this wool to protect them against such contingencies as may arise at the end of the war. The supplies of wool in Germany must be at very low ebb, and naturally when the war ends, it that country is not entirely bankrupt, the demand will be unprecedented. It is just possible that Germany with her usual foresight is making preparations for the future more than for the present.

BOXING EXHIBITION.

At the Fifty-Second Annual Convention of the National Wool Growers Association at Salt Lake City, January 13, 14 and 15, we anticipate that a boxing exhibition will be put on which will outclass anything ever presented in the Intermountain country. Honorable Thomas Painter, mayor of Evanston, Wyoming, and one of the progressive sheepmen of that section, is now working on arrangements for this boxing exhibition. Mr. Painter is in communication with some of the best talent in America, but at the time of going to press complete arrangements have not been made, but Mr. Painter assures us that the men he will present will be some of the best in the country. Mr. Painter has had wide experience in the boxing game and enjoys a reputation throughout the entire country for fairness and square dealing. He has never been connected with anything but the very highest class boxing exhibitions, and we anticipate that he will make a supreme effort to present an unusually attractive program to the wool-growers.

Do not forget the time and place of the National convention, January 13, 14 and 15.



One of My Stud Rams

CALIFORNIA RAMBOUILLETS

My Rambouillets are large, smooth and well covered with heavy fleeces of long white wool. They are bred in a high, dry country and are very hardy. I have 2000 one and two-year-old rams for this season. If you visit the Fair, call and see my flocks. My prices are reasonable and my rams will suit the range country.

CHAS. A. KIMBLE,
Hanford, Cal.



One of My Stud Ewes

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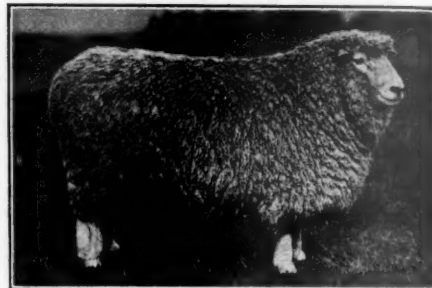
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A SENSELESS DIPPING ORDER.

In Northern Arizona is a piece of land lying north of the Colorado River which is known as the Arizona strip. This land is separated from the balance of Arizona by the Grand Canyon, which is almost a mile deep in every place, and sheep from south of the Grand Canyon or north of the Grand Canyon cannot cross the canyon. This strip of land, therefore is contiguous to Utah and is not used by Arizona sheepmen. The State Board of Sheep Commissioners of Arizona issued an order requiring all the sheep of that state to be dipped in lime and sulphur or black-leaf last fall. Likewise the State Board of Sheep Commissioners of Utah issued an order requiring all the sheep of Utah to be dipped in any dip that would kill ticks last fall. Ostensibly the sheep of both states were dipped in accordance with the law. Along about the latter part of November some 200,000 sheep, that are owned in Utah and which run in Utah ten months of the year, trailed south on to their winter range on this Arizona strip. This has been the range used by these sheep for very many years, and no Utah range is available for them. As soon as the sheep entered Arizona they became subject to the Arizona law and the Arizona State Board of Sheep Commissioners immediately insisted upon their dipping even though they had just been dipped in the State of Utah. The Arizona board took the position that since they were dipping all sheep in tobacco or lime and sulphur and since Utah had allowed the use of coal tar dips, in order to place the Utah sheep in the same position as the Arizona sheep, they must compel them to dip in lime and sulphur or tobacco. Any sensible citizen knows that these Utah sheep could not have been dipped late in the season without causing irreparable injury to them and anyway they had already been dipped in coal tar dips. The Utah Wool Growers' Association protested against the dipping; the Utah State Board of Sheep Commimmssioners, and the National Wool Growers' Association likewise protested against

The New Zealand Romney Marsh Sheep Breeders' Association



Flock Masters of America Attention!

The New Zealand Romney Stud flocks can supply your demand for rams and breeding ewes.

Our Romneys hold the World's Championship

The climate and country make them suitable for all parts of the union.

Flock owners visiting the Panama Exposition should make a point of inspecting the ROMNEY SHEEP from New Zealand.

Correspond with the Association for full particulars. Write today.

ERNEST J. WACKRILL, Secretary
P. O. BOX 40
Feilding, New Zealand

N-Z. Romney Marsh Sheep Breeders' Association (Incorporated by Charter)

it as entirely unnecessary. If the state boards of sheep commissioners are not going to use reasonable common sense in the enforcement of their authority, then the sooner these boards are abolished, the better it will be for the sheep industry of the whole country.

The writer has been in the West for fifteen years, and during that time has been closely identified with the sheep industry. Some of the time during the fifteen years he has found the board of sheep commissioners of one state unwilling to co-operate with the board of another state. The part purpose of of these boards have been to dip sheep and to prevent sheep moving from one state to another. Through their orders millions of sheep have been dipped when there was no excuse for the dipping at all except to retard the commerce in sheep between the different states. We have in this country thousands of woolgrowers who by reason of democratic persuasion look with favor upon the importation of sheep and wool from Africa, Australia and South America, yet if a man living in an adjoining state desires to bring his sheep into their states, he rises in holy horror and demands their immediate dipping and hence their injury. The writer has had some experience in this dipping matter; either directly or indirectly under his supervision about 14,000,000 sheep have been dipped, and he knows that every time a sheep is

dipped, unless there is a good reason for the dipping, that animal is injured. The state boards of sheep commissioners ought to know this, and it should be their purpose to get the sheep back and forth across the country with as little inconvenience as possible instead of causing them as much embarrassment as possible. We are of the opinion that this question of moving livestock from one state to another is a matter that should be in the hands of the Federal Government in order that men might be protected in the commerce rights which our constitution intended to give them. These state boards of sheep commissioners can fulfil a useful purpose, and in many

cases they have done so, but until they all learn that a sheep dipped in one state and entirely free from disease, equal to a sheep dipped in their own state, they are going to prove an embarrassment to the industry at large.

Lincolns 1915 Cotswolds

150 purebred LINCOLN and COTSWOLD yearling rams. 150 LINCOLN ram lambs. 150 COTSWOLD rams lambs. Also one car of choice young ewes.

R. S. ROBSON & SON
DENFIELD, ONTARIO, CANADA



A band of 1000 purebred Lincoln and Cotswold Ewes. Bred from the best stock to be found in United States and Canada. Owned by Austin Bros., Salt Lake City, Utah

Rams for Sale

EXCELSIOR STOCK FARM

J. R. ALLEN & BROS.
DRAPER, UTAH



The World's greatest flock of Cotswolds consisting of 3000 registered breeding ewes of best breeding and highest merit. The best blood imported from England for past twenty years has been added to this flock.

They winter 4,000 and summer 10,000 feet above sea level. They are raised on the range under the most favorable conditions known conducive to perfect health. No stomach or lung worms so prevalent in eastern bred sheep. For flock headers we can furnish rams that cannot be excelled and we think superior to best ram brought to this country from England. We are offering 1,500 Yearling Rams, 1,500 Ram Lambs, a few cars of Breeding Ewes and Ewe Lambs. Come and see us and these sheep—you are always welcome.



Many of the best Hampshires produced in America and England including the leading prize winners have been added to our flock.

The Deseret National Bank

SALT LAKE CITY, UTAH

Assets at close of business

\$6,228,770.10

NOVEMBER 10, 1915

Respectfully Solicit
Your Business

SHEEP STEALING IN IDAHO.

In a previous issue of this paper, we reported that several parties had been arrested in the State of Idaho for stealing sheep. The number stolen from some four or five Idaho sheepmen living in one section was somewhere in the neighborhood of 2000 head. These sheep were found in the possession of certain parties in the vicinity where they were stolen. These individuals were arrested and tried before a jury and acquitted. The evidence seemed to be conclusive that they had stolen the sheep, yet it was impossible to convict them. This is the case in almost any western state, and as time goes on it will become more pronounced. Wool-growers themselves will not co-operate nor will they support their organizations. Hence when any public matter comes up, they generally get the bad end of it as they have done in this Idaho case.

The National Wool Growers' Association is going to offer a reward of \$300.00 for the arrest and conviction

of anyone caught stealing sheep from the members of the Association. Not a penny of the reward will be spent for the detection of those who steal sheep from parties who do not belong to the Association or who are not in good standing at the time of the theft.

THOSE RABID CALIFORNIA COYOTES

Some time back W. T. Cressler of Cedarville paid us a visit and told us of the extremely dangerous situation now existing in Modoc county because of attacks by rabid coyotes. As an example of the danger to stockmen caused by these made animals, he stated that personally he had lost two valuable young and promising bulls, easily worth \$100 apiece, which had been bitten. On another occasion a coyote suffering from rabies forced its way, after biting several dogs, into a cabin where two range-riders were sleeping. Eventually the brute was knocked on the head without harm to the inmates.

Since that time a dispatch has been received from Modoc county which indorses Mr. Cressler's experience. It states that considerable feeling has been worked up over the country because of the delay of the Board of Supervisors of Modoc county in offering a bounty on wolves. About a month ago a dance was given in Fairport in honor of a delegation of twelve or fifteen club women from Reno, Nev. While the dance was in progress several of the participants went out to ascertain what created such a commotion among the dogs. Although it was dark where the fight was going on, two or three state that the intruder was a coyote. Several dogs concerned in the fray have since gone mad. As a result residents of Fairport have demanded muzzles for everything of the canine kind.

At Ulturas and Fairport drastic measure have been resorted to. In the rural schools the danger is felt most keenly. Pupils are refusing to attend, and parents will not let many of them go unless escorted to and from the school by an armed guard.—Butchers Journal.

M. K. PARSONS & COMPANY LIVE STOCK

1023 Kearns Building

Phone Wasatch 412

SALT LAKE CITY, UTAH

Shepherd Wants Position

Competent and capable in every detail of the sheep business, a lifetime experience, well known by prominent flockmasters and of good address, present position over three years with entire management of pedigree flock. Seeks the management of pure bred flock with reputable breeder, or anyone contemplating the founding of a flock.

Reasons for leaving present position, dispersion of flock.

Address: Shepherd, 718 McIntyre Building, Salt Lake City, Utah.

AYRES, BRIDGES & CO. Wool Merchants

200 SUMMER STREET BOSTON, MASS.

Western Agents—GODDING & CHADWICK CO.,
310 Dooly Block, Salt Lake City, Utah P. O. Box No. 635, Albuquerque, New Mexico

STATEMENT PRESENTED TO CONFERENCE ON MARKETING LIVESTOCK BY AMERICAN NATIONAL LIVESTOCK ASSOCIATION.

The growth of the livestock industry in the United States has been coincident with the establishment of central stock yards and the development of the modern packing plants with their intensive systematization, complete utilization of all by-products, and resultant economies. This development of the slaughtering business to the large, well-organized and thoroughly equipped plants of today has been in keeping with the spirit of the times; it was a necessary evolution to meet changed conditions. Our large cities could not be satisfactorily and economically supplied by local butchers, nor could stock growers rely upon a certain and sure market for all their stock at all times without these great central markets and large slaughtering plants.

For many years this country raised more meat products than it consumed and for a long period we exported approximately 20 per cent of the meat food products and animals we produced, either on the hoof or as finished product.

Producers are not unmindful or unappreciative of the benefits we have derived through the great central markets and the large slaughterers, but we feel that in the development and evolution of the business to the present basis, there have resulted some evils which can be remedied and which we come here to discuss in a friendly spirit with all interests concerned.

No doubt other branches of the meat industry have their own peculiar problems and encounter many difficulties in the conduct of their end of the business, but a frank discussion of all phases will at least lead to a better understanding and we confidently believe result in some substantial remedies.

Let it clearly be understood that we are not seeking to revolutionize the present marketing methods. Central

markets with buyers of all kinds and large slaughtering plants are necessary under prevailing conditions. Our desire is to eliminate or minimize the effect of certain evils and practices which have crept into the present system.

The capacity of the United States for the production of live stock has not been reached. Under the stimulus of reasonably profitable and stable prices it can be largely increased. Whenever this country with its unrivaled agricultural resources cannot raise all the meat it needs, the rest of the world will be on a starvation basis. The free meat bill was not necessary to augment a diminishing supply in this country, for our supply has proven to be sufficient for home needs, with some for export. In fact, we would today have a greater surplus of meat food animals were it not for the instability and uncertainty of the market, coupled with the fear of the effect of the free meat bill and unsatisfactory land conditions in the range territory. Violent fluctuations in the market have a deterrant influence on our production—particularly the fattening of live stock. The finishing of live stock in the feed lots is a most hazardous and speculative undertaking. There are frequent erratic fluctuations that cannot be accounted for upon any legitimate effect of supply and demand.

Statistics as to the total slaughter of meat food animals in this country, shows that in recent years there has been a marked uniformity in the total number of pounds of meat produced. The variations in the volume is narrow as will be observed from the gov-

FOR SALE BIG SHEEP and CATTLE RANCH

On account of ill health of one of the members of our firm we are offering the best stock ranch in west for sale.

It is a well known fact that the Yakima country beats the world for heavy wool production, fat lambs, and the quality of its sheep and cattle.

We have decided because of reason above mentioned to sell our 45,000 acres of deeded land which with three times as much more range leased from the state and in the forest reserve makes up our ranch. The price is \$6.00 per acre for the deeded land, one-half cash and balance on liberal terms; 2,000 head of cattle and 25,000 head of sheep will be sold with the ranch if you want them at market prices.

This ranch borders on the Columbia River on the east, elevation 450 feet and its western border has an elevation of 6,000 feet, and as we own or lease all the intervening land, our summer and winter range joins and it is nearly all under fence, there being about sixty miles of fence on the ranch. There is also over 60,000,000 feet of standing timber. A large number of springs and creeks together with the Columbia River furnish an abundance of water available on all parts of the ranch.

On this ranch there are improved farms with good buildings, also several sections of excellent grain land.

Game and fish are plentiful and gas launch, ferry boat, splendid saddle horses, and everything that goes to make life worth living, are all here.

This ranch is in the hands of no real estate agent. Deal direct with us.

COFFIN BROS.,
North Yakima, Wash.



Leading Implement and Hardware Dealers

WOOL GROWERS SUPPLIES

At 50 Places in Utah and Idaho

If you have not bought rams yet, read the advertisements in this issue before doing so.



COYOTES

Get "More Money" for your Coyotes, Lynx Cats, Muskrat, Foxes, Beaver, Skunk and other Fur bearers collected in your section.

SHIP YOUR FURS DIRECT to "SHUBERT" the largest house in the World dealing exclusively in NORTH AMERICAN RAW FURS, a reliable, responsible, safe Fur House with an unblemished reputation existing for "more than a third of a century." a long successful record of sending Fur Shippers prompt, SATISFACTORY AND PROFITABLE returns. Write for "The Shubert Shipper," the only reliable, accurate market report and price list published. Write for it now—It's FREE.

A. B. SHUBERT, Inc., 25-27 WEST AUSTIN AVENUE
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ernment figures which will be filed in the record. The volume of production of other food products is by no means so uniform year by year as meat products, yet there seems to be more frequent and violent fluctuations in prices on the live stock markets than on the average of other food products. Many of these fluctuations in our judgment are not controlled by supply and demand. A drop of \$1.00 per hun-

dred pounds in a couple of days can hardly be explained on that theory.

We recognize a distinct difference between the natural influence of supply and demand as affecting the general trend of prices and the overnight changes which frequently occur. We expect the general trend of prices of live stock to advance or decline in sympathy with a larger supply or a shortage, general commercial conditions, export demand and other legitimate causes, and a reasonable fluctuation in the trend of prices cannot be avoided even under unrestricted competition. General average prices for live stock are higher today than a few years ago in response to an increased cost of production, a shortage in supply and a larger demand; if supplies of live stock should materially increase without a corresponding increase in demand, a decline would probably be justified. That is one of the chances the producer must figure on. He is entitled to the legitimate benefits arising from a shortage and should stand the consequences of over-production.

We believe that today the market fluctuations are more rapid and violent than ever in the history of our industry and that it is caused by a centralization of the buying power into the hands of fewer large slaughterers. It is hardly necessary to point out the rapid growth in the volume of business of the big packers, viz., Swift, Armour, Morris, Cudahy and Sulzberger interests. While the production of meat products in pounds has not ma-

terially changed during the past few years, we find that the business of these large concerns, according to their annual reports, has largely increased.

We believe that the present volume of the operations of the big packers and their control of the instrumentalities of marketing is fraught with danger to the producer, to the consumer and even to the packers; and that any enlargement of their sphere of influence over so important an article of food would prove a more serious menace to this country. Any further centralization of the meat industry into the hands of fewer people would give them a greater control over prices—a power and responsibility which they should seek to avoid for fear of its abuse.

Live stock commission men claim there is less competition on the various markets than ever before. This is because of the elimination of many competitive slaughtering plants and therefore fewer buyers.

We believe it is not to the best interest of the live stock industry for the large packers to own and control important stock yards, exchange buildings and other facilities, for it results in an undue influence over the commission men who sell our stock. Their ownership of live stock loan companies and banks, market papers, rendering plants, tanneries, etc., tends to a completer control over our industry and a consequently greater opportunity to misuse their power. All these and other incidental questions will be fully presented and discussed by others.

There are also certain abuses connected with the handling of our live stock at the various markets by the commission men. Too large a percentage of the feeder stock is forced to pay an extra commission and a profit to some trader. There are too many commission men and others trying to scalp a living out of the producer by a commission for selling and another for buying and a profit to some trader or speculator for handling the stock. The producers have it in their power to correct part of this evil by selling



The Essentials of a Sound Investment

are few in number but they are very important indeed. The chief of these essentials are unquestioned safety and satisfactory income return.

Both of these are found in the highest degree in the Tax Free 6% Secured Certificates which this Company has for sale in denominations of \$100 and upwards.

Safety is provided by real estate protection considerably in excess of the face of the Certificate and the income return is 6% net.

We shall be pleased to furnish you with full detailed information on request.

SALT LAKE SECURITY AND TRUST COMPANY

George M. Cannon, Cashier

31 Main Street Salt Lake City

4 PER CENT ON SAVINGS, \$1 AND UP

W. F. EARLS, Cashier
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United States Depository

The National Bank of the Republic

Salt Lake City, Utah

Capital	\$ 300,000.00
Surplus and Undivided Profits	373,500.00
Deposits	4,512,000.00

We make a specialty of caring for the banking business of the woolgrowers of this Intermountain Country and point with pride to a number of the most successful men engaged in that business as clients of this bank.

WE WANT YOUR BANK ACCOUNT

or purchasing their feeding stock in the country or on the range, thus avoiding some unnecessary expenses.

The increased selling of live stock in the country direct to slaughterers is a manifest expression of dissatisfaction on the part of the producer with some of the market methods, is a protest against the increased expenses of handling live stock on public markets, and plainly shows a desire to avoid the uncertainties of the market. A producer knows what he is to receive when he sells in the country. Nobody knows what he is likely to get when he ships to market. It is difficult to understand how purchases in the country can have much if any real effect on the prices at central markets; it removes some competition, but at the same time it relieves the market from the burden of additional receipts. The two balance. Such purchases and sales in the country are not likely to increase under the present livestock conditions and the small holdings of stock by any one owner. The question of country buying is primarily one between the producer and the packer.

We believe that present conditions could be very much improved, and we suggest the following definite remedies:

1. A more even distribution of receipts on five days of the week. This would prevent delays at terminals and enable the business to be transacted at less expense.

2. A weekly publication by the government of data as to the meat supply on hand.

3. The establishment of public abattoirs in connection with public stock yards.

4. Slaughterers to relinquish, so far as possible, their interest in and control of stock yards and other instrumentalities involved in the marketing of live stock.

5. Commission houses not to serve as both seller and buyer of the same stock, and to sell direct to country purchaser.

6. Federal and state supervision of the methods and practices at the central markets.

7. A greater co-operation toward the end of securing unrestricted competition.

POOR CORN.

Down in the cornbelt the most frequent thought expressed is that the Government has made a mighty poor guess on the corn crop. Federal reports indicate a tremendous crop, but while farmers argue that there is lots of corn, they are emphatic in the statement that much of it is worthless. Corn did not mature and is soft, watery and sour and has little value even for feeding. Farmers in Iowa, Illinois and Wisconsin, that turned lambs in the corn fields expecting to market them about Christmas, are already pouring them into market because of the corn shortage. This also accounts for the rush of pigs to market about two months earlier than anticipated.

NEW DOUBLE-DECK CARS.

So far as the writer knows all the double deck cars now in use are either 36 feet long or less. We know of none over 36 feet. In handling cattle, it has been thought that they ride better in a 40-foot car than in a shorter car, on the same principle that the auto of long wheel base rides much easier than the one with a short wheel

base, so should the long stock car ride better than the shorter one. The Santa Fe Railroad has recently ordered 500 new double deck cars all 40 feet long. We are glad to see this road making this experiment and believe it is a move in the right direction.

THE Utah State National Bank

numbers among its clientele many men who are prominent in the sheep industry, who appreciate the value of a strong banking connection, a depository which has excellent facilities and a splendid service.



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Joseph F. Smith, President.
D. C. Jackling, Vice-President.
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—the two coals that for nearly a quarter of a century have been recognized as the finest of Utah's fine coals.

Mined and shipped exclusively by the Utah Fuel Co., Salt Lake City.



**CLEAR
CREEK**

COAL

**CASTLE
GATE**

RELIABLE. ALWAYS

THE KNOLLIN SHEEP COMMISSION COMPANY

Best Liquid Dip For Ticks



We used Cooper's Fluid Dip a few years ago and, as I remember, it was very satisfactory. It killed the sheep tick and left the animal in a very nice, clean condition.

MONTANA AGRICULTURAL COLLEGE & EXPERIMENT STATION.
By PROFESSOR R. W. CLARK.

For a number of years we have used Cooper's Fluid Sheep Dip. At a dilution of one gallon to 200, it destroys all the ticks; that's what we dip for here. We consider Cooper's Fluid the best liquid dip.

WARREN LIVE STOCK CO.
W. W. GLEASON, Manager.

During the past six years I have dipped about 400,000 sheep, and during this time Cooper's Fluid Dip has given absolute satisfaction against Scab. It's certainly all you claim, and has been a money-maker for me. I find it far superior to any Coal Tar Dips I have ever used.

ARCHIE ANDERSON.

Be Sure It's Cooper's Then Dip

I prefer Cooper's, as it is the Dip for ticks, and I never have had any Scab in the country since I have been acquainted with the Fluid Dip.

Parowan, Utah.

F. L. CULVER.

STOCKS CARRIED THROUGHOUT THE WEST.
WRITE FOR SPECIAL BOOKLET TO

WILLM. COOPER & NEPHEWS

152-154 West Huron St., CHICAGO, ILL.

Montana Branch—C. F. WIGGS, Stapleton Block, Billings, Mont.

Utah Agency SALT LAKE HARDWARE CO., Salt Lake City, Utah

PRODUCTION OF CROSSBRED WOOL IN AUSTRALIA.

Dalgety's Review, Australia.

The continued expansion of the Frozen Meat Trade has led to a further increase in the proportion of crossbred wool produced. This is a tendency to which attention has frequently been drawn, and it is one of the most remarkable phenomena in the world's wool production. Experience has proved that the Merino cannot compete with the crossbred for all-round returns on country which is suited to the latter, and as the pastoralists of Australia are engaged in sheep-raising for profit, and not for sentiment, a continued decrease in the production of Merino wool must be expected. Each year finds the crossbred flocks penetrating further into the back country, and districts, which five years ago were considered utterly unsuited to them, now graze and fatten thousands annually. Even Queensland, hitherto regarded as an impregnable stronghold of the Merino, is steadily increasing her crossbred flocks, and though as yet they are not of any great consequence, the significant fact remains that they are on the increase.

FEW LAMBS FROM KENTUCKY.

There is quite a shortage of ewes in Kentucky and Tennessee this fall, and we will have a short lamb crop next spring. As a rule our farmers buy their western ewes in Chicago each fall, but this year on account of foot and mouth disease, they could not get any, hence the shortage. These southern lambs go to market at Chicago and St. Louis in June and July, and the scarcity should help prices for early western lambs next summer.

The Walnut Hall farm will probably import a lot of Hampshires next summer if it is possible to get them in England.

We sold our Hampshire wool last fall for 35¼ cents, but if we had it now, it would bring 37 cents.

ROBERT BLASTOCK,
Donerail, Kentucky.

Cotton Seed Meal and Cake

Much cheaper than last year.

Easiest handled, most economical and most highly concentrated stock food known. Can be fed on range or in pen.

Absolutely No Waste.

WRITE OR WIRE AT MY
EXPENSE

JOHN A. STONE,
702 BOSTON BUILDING
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You are invited to attend the annual convention of the National Wool Growers' Association in Salt Lake City, Utah.

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SALT LAKE CITY, UTAH**Courtesy, Helpfulness,
Strength****National Copper Bank**
SALT LAKE CITY**McCornick & Co.**
Bankers
Salt Lake City**STATEMENT
OCTOBER 31, 1915****RESOURCES.**

Loans	\$4,000,407.20
Furniture & fixtures	50,000.00
Banking house and other real estate	325,877.99
Stocks, bonds and securi- ties	\$ 348,908.81
Due from banks	1,615,009.87
Cash on hand	686,038.69
Total cash resources	2,650,647.37
	\$7,686,992.65

LIABILITIES.

Capital paid in	\$ 600,000.00
Surplus	120,000.00
Undivided Profits	202,265.24
Deposits	6,764,727.41
	\$7,686,992.65

4 Per Cent on Savings Deposits.**HOW TO KILL COYOTES.**

I believe our loss of sheep in Utah from coyotes is right around ten per cent, and it is getting worse. The sheepmen could kill these pests if they wanted to, but most of them wait for the other fellow to do the work. We have to do something to kill these coyotes on our winter range, or they will soon begin to kill the sheepmen.

Last winter on the desert the coyotes killed a lamb for me; I put two bottles of strychnine in him, and the next morning found four dead coyotes. That night I had six sheep killed, and I filled all of them with poison and killed thirteen more coyotes. This fresh bait gets them.

Some coyotes stay on the desert all summer, and they attack the first sheep that show up on the desert in the winter. I believe that every man that uses the desert should contribute about fifty sheep and a few small bands could be sent out on the desert a couple of months before the main flocks are sent in. If these small bunches were in charge of a good man, they could be so handled that they would attract thousands of coyotes to the corrals, where they could be trapped or poisoned. I stand ready to turn fifty head of sheep over for such an experiment.

W. A. CRANE, Harriman, Utah.

THE DENVER SHEEP MARKET.

Sheep receipts on the Denver market during the month of November were considerably lighter than in October and a larger proportion of the stuff received consisted of through stuff en route from the range to the feed lots and not offered for sale. There was, however, a very fair offering here from day to day and a good strong demand for practically everything on sale. Prices are not a great deal different from a month ago and the sheep trade during the month on the whole has been extremely satisfactory. Quite a few short fed ewes have come back to market from Northern Colorado feed lots and sold to packers from \$5

to \$5.35. Good fat lambs are selling from \$8 to \$8.40 and feeding lambs are bringing \$7.50 to \$8.20. Navajo feeding ewes are selling around \$4.25 to \$4.75 and choice native ewes up to \$5.15. Several bunches of yearlings arrived on the market and sold from \$5.75 to \$6.25. The inquiry for fat sheep and lambs is exceptionally good but the feeder trade the last couple of weeks has been just a little slow. While there are still a few feeders who have their supplies to purchase, most of the stuff that will be fed in territory tributary to the Denver market is now in the feed lots and those who have canvassed the situation estimate the supply of sheep and lambs on feed in Colorado to be somewhat less than a year ago. Best estimates place the number on feed in Northern Colorado at 20 per cent less than last year, in the Arkansas valley about 30 per cent less and in the San Luis valley around 50 per cent less.

**THE PASTORAL YEAR
IN AUSTRALIA**

From a pastoral and agricultural standpoint, the year has been a disastrous one in Australia. An appalling drought, which did not break until well into May, has greatly reduced the flocks of the country. The losses have been doubly severe in that the worst of them did not occur until the cold break up of the drought by which they were caused, when the capital value of every sheep had been greatly increased by the cost of keeping it alive. It has been a ruinous year for flockowners, and it will require many good seasons to enable them to recover from the losses they have sustained. These remarks are not applicable to New Zealand, where the output of wool and mutton has been well above the average, as have values for these staple products, with the result that, whereas Australian producers have had a disastrous year, their confreers in the Dominion have experienced a profitable twelve months.—Dalgety's Review.

Get us a new subscriber.

SHEEP AND RANGE CONDITIONS IN ARIZONA

While the sheep are starting into the winter in fine condition, the range is rather dry. In the northern part of the state a considerable number of cattlemen have been compelled to buy water from the railroad. The sheep that go south to the foothills in the vicinity of Phoenix are mostly out of the mountains by November 10th.

A good general rain occurred about November 1st and if another rain or storm comes in the next three or four weeks, ample feed will be assured for the present for the southern country.

More ewe lambs were held this year than heretofore and owing to the general scarcity, it is almost impossible to purchase any quantity of breeding ewes or lambs, except at a very high price.

We estimate that there is probably 50 per cent of the Arizona wool still on consignment and unsold in Boston. However, we look to see it move at satisfactory prices before the 1st of January. The average shrinkage of these wools is around 60 per cent and a price of 70 cents scoured basis would net about 28 cents in Boston, which is the price a good share of them are holding for.

The Forest Service officials have decided that the range in the Coconino National Forest is over-grazed in places and have held meetings with both the woolgrowers and the cattlegrowers associations in order to get an expression as to whether they desire a general cut or a re-arrangement of allotments. The cattlemen have gone on record as favoring a general cut. The sheepmen, generally speaking, question the logic of the Forest Officials in their conclusions as to the depreciation in the range and the causes therefor, and have made no official recommendations to date through the Association.

Regarding the injustice of requiring Utah sheep to comply with the Arizona general dipping order on the Arizona strip north of the Colorado River: This matter was taken up with the Sheep Sanitary Commission, on which we understand there is a division of

opinion. The following telegram from Albert M. Jones, a member of the Commission is self-explanatory.

"The commission only requiring Utah sheep to comply with Arizona general dipping order. Arizona sheep on that side have complied. Owners made complaint before they dipped that Utah sheep would not, asked that they be protected. Can't see any way to modify general dipping order at this time.

M. I. POWERS, Arizona.

January 13, 14 and 15.

GOOD SHEEP FEEDING YARDS.

Since Mr. Brooks has been connected with the Santa Fe System, that railroad has been making many improvements in their methods of handling livestock, and special attention has been devoted to sheep shipments because of the large amount of sheep feeding along their lines. The Santa Fe has been endeavoring to make their yards at Emporia, Kansas as satisfactory as possible and are now expending \$55,000.00 to improve these yards.

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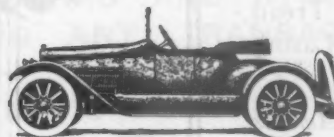
ANY CADILLAC OWNER WILL TELL YOU THE REASON

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The Greatest Tire in America.

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HARDWARE CO.**

WESTERN DISTRIBUTORS

Do not forget the time and place of
the National convention.

WASHINGTON WOOL GROWERS MEET.

On the 24th and 25th of last week we had a rousing meeting of the Washington Wool Growers Association, which was held during our Cascade International Livestock Show.

Charles Shurte of the Knollin Sheep Commission Company addressed the meeting in a very able manner, explaining the commission house side of the lamb trade. He was followed by Mr. Davis of Armour & Co. advising the shipment of lambs as early as possible before they dry out.

Mr. Averill of Pendleton, the Government predatory wild animal inspector, also very ably addressed the association, taking for his subject the predatory wild animals which prey on the sheep business, emphasis being especially placed on the coyote, and he agreed to put men and traps on our ranges and assist us in every way to rid the ranges of this pest.

A resolution was passed asking the Northern Pacific Railway to put on a special stock train two days each week running west to the Sound and asking them to pay closer attention to small one and two-car shipments which they have been handling in a very dilatory manner.

Mr. McKenzie, district forester from

Portland, made a good talk with the use of the reserve to the best advantage as his topic.

The following officers were elected for the ensuing year: President, H. S. Coffin; vice president, Thomas Drumheller; secretary and treasurer, Archie Prior. Mr. Rothrock and myself expect to attend the January meeting of the National, weather permitting.

H. S. COFFIN,
North Yakima, Wash.

LEAVES FOR ARGENTINA.

On November 27, Mr. W. Scott Anderson of Boise, Idaho, sailed for Buenos Aires in the Argentine Republic. Mr. Anderson has long been one of Idaho's most progressive sheepmen, but last spring sold his outfit of some 25,000 sheep to Andrew Little and decided to retire from the business in Idaho. He goes to the Argentine to look over the possibilities of sheep growing in that country and will locate there if conditions are favorable. While we wish Mr. Anderson the best of luck, he is entirely too good a citizen to be lost to the sheep industry of the West, and nothing will please us better than to see him return to our own country and take up the sheep business again either in Idaho or in some other western state.

Overland
TRAFFIC ROAD

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Browning Auto & Supply Co.

55 West 4th, South

Willis
KNIGHT
Sleeve-Valve Motor

December, 1915.

THE NATIONAL WOOL GROWER

59

AUSTRALIAN SHEEP LOSSES.

Australian Pastoral Review.

At the 31st December last there were depastured in Australia 82,110,606 sheep, which was the smallest number since 1905. Since then probably 12,000,000 to 15,000,000 have died, which means that we have now something between 67,000,000 and 70,000,000 left. It is maintained in some well-informed quarters that this number is insufficient to breed up from. They point to the fact that from 1909 to 1911 both inclusive, the flocks of Australia increased from 92,044,874 to only 92,742,034, despite good seasons. If, with 92,000,000 to breed from, the natural increase was so slow, how can we possibly expect to increase with only about 70,000,000 to breed from? There is a section interested in pastoral pursuits which maintains that the Government should forbid for, say, two years the slaughter of any female sheep that is not too old to breed. Opponents to the scheme maintain that the flocks will increase to their former size without such Government interference, and cite as their proof the wonderful increase following on the drought of 1895 to 1902, against which we have to remember that the demand caused by the frozen meat trade is much greater now than it was then. The questions calls for the most careful consideration.

There is some divergence of opinion as to the probable shortage in the clip now being shorn, though all authorities are agreed that the decrease in production will be unprecedentedly serious. When two months ago we expressed the opinion that the shortage would be somewhere between 400,000 and 500,000 bales there was no lack of critics who thought the figure excessive, pointing out that the general experience of the country after a drought has been that the sheep cut far better fleeces than expected. No doubt there is some truth in this, but before making the estimate we went most carefully into the question, and subsequent investigations incline us to emphasize rather than qualify our estimate. The wool is now coming into

LIVE STOCK GROWERS AND FEEDERS

We are at all times in the market for Fat Cattle, Sheep and Hogs.
CALL US ON LONG DISTANCE TELEPHONE, OR WIRE US FOR PRICES.

UTAH PACKING & PROVISION CO.

TELEPHONES: Wasatch 1826-1827

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Don't Trade Off Your Pelts to Peddlers When You Can Ship Them to the

UTAH HIDE & LIVE STOCK COMPANY

SALT LAKE CITY, UTAH

And receive full value for your Hides, Pelts, Furs, or Wool any day in the year.
THE OLDEST AND MOST RELIABLE HOUSE IN THE INTER-MOUNTAIN COUNTRY.

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THE BEST SERVICE

FOR BANKS AND STOCKMEN
HAVING ANY TRANSACTIONS
AT THE CHICAGO LIVE STOCK
MARKET IS SECURED BY AN
ACCOUNT WITH

THE LIVE STOCK EXCHANGE NATIONAL BANK
OF CHICAGO

"THE BANK OF GOOD SERVICE"

CAPITAL \$1,250,000

RESOURCES \$15,000,000

Mr. Wool Grower and Sheepman

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we would be pleased to have
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New Wilson Hotel

Rates \$1 to \$2.50

If you are looking for a
live spot visit the **Wilson
Hotel Grill**. Music and
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9 p. m. to 1 a. m.

Do not forget the time and place of
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ROOMS WITHOUT BATH
\$1.50 AND \$2.00 PER DAY
WITH BATH \$2.50 AND UP

"The very best of everything at sensible
prices"

Mr. Sheepman

The NEW GRAND Hotel

at the corner of Main and South 4th
Street, has opened the finest club room in
Salt Lake City, for the breeders in inter-
mountain country. Call and inspect.

Pool, Billiards, Salesrooms and up-to-date
luncheon at all hours and most reasonable
prices.

store in fair volume, and from a wide
range of districts, and an examination
of it leads one to suppose that the de-
crease will be even more serious than
we have indicated, and the belief is
confirmed when one studies the figures
of the various stations—very many
clips showing a decrease of over 50
per cent.

LARGE OREGON SHEEP OUTFIT SOLD

It has been reported to us that the
Malheur Land and Livestock Com-
pany that operates in Malheur and
Harney counties, Oregon, and of
which Mr. Monte B. Gwinn of Boise,
Idaho, has been one of the largest
stock holders for many years, has been
sold to P. H. O'Neil of Faulkton, So.
Dakota. A year ago Mr. O'Neil
bought an interest in this ranch that
was at that time owned by Mr. Ander-
son, and he has now purchased the in-
terest formerly owned by Mr. Gwinn.

Mr. Gwinn has been one of the most
progressive woolgrowers in the west-
ern country and has been a strong sup-
porter of the National Wool Growers'
Association. Whenever he has been
called upon for assistance, he has done
his full share, and we regret to see
men of his type go out of the sheep
business. Mr. O'Neil, who has pur-
chased his end of the business, was
formerly a cattleman in South Dakota
and has a most enviable reputation for
fair dealing among his neighbors. He
is largely interested in real estate in
California, and his sons are going to
handle the sheep business in Oregon.

Get us a new subscriber.

WEEDS HARBOR INSECTS.

Washington, D. C.—Getting rid of
grass, weeds, and undergrowth about
the farm during the fall and early
winter is one of the best protective
measures the farmer can use against
crop-damaging insects the following
year. Weeds, matted grass, dead veg-
etation and brambles along fences,
roadsides, margins of fields, banks of
little streams or ditches, especially in
irrigated territories, are the natural
hibernating and often breeding places
of many destructive insects. This
vegetation gives grasshoppers, chinch
bugs and other insects most favorable
conditions for reappearance the follow-
ing spring and summer. Similarly,
voluntary growths of wheat harbor the
Hessian fly; while stray alfalfa plants
in the fields and around them may be
the source of the incursion of grass-
hoppers. The Hessian fly in the ab-
sence of volunteer wheat at times lays
its eggs on the young crab grass which
may spring up in the fall after a tract
has been burned over. At present, in
some parts of the country, the late-
sown wheat is being infested by Hes-
sian flies that have developed in and
spread from volunteer wheat. Late
sowing cannot be expected to protect
winter wheat from attack in spring if
volunteer wheat has been permitted to
grow up either in nearby fields or
among the late-sown grain. Grass-
hoppers lay millions of eggs along the
banks of canals and ditches in the
western country. Chinch bugs hiber-
nate in bunches of broom sedge, and
many other destructive pests could not
endure the winter where it not for
these natural nurseries.

CULLEN HOTEL

SALT LAKE CITY, UTAH

FRED J. LEONARD, Mgr.

Headquarters for Sheepmen

More Sheep bought and sold in the Cullen
Hotel than in any hotel in the United States.

Rates \$1.00 and up.

TS. Sheep, of course, are the great enemies of weeds and where sheep can be turned into a field, or a flock herded along the roadside, they will effectively clear up waste vegetation and in addition the trampling of their feet will destroy many insects. The sheep at the same time turn waste material into mutton and all they require is a little grain for finishing. Frequently when sold they return a profit, but the entomologists hold that even if they merely pay for the extra grain they eat their function in destroying weeds and keeping down insects makes their use well worth while.

In many places community action in destroying weeds is necessary, as it may not be profitable for the farmer to clear his side of the road if the other side is allowed to remain a harboring place for pests. In such cases it might well pay the community to get sheep co-operatively and use them to clean up the weeds of the entire section.

A PROFITABLE YEAR FOR SPECULATORS IN AUSTRALIA

The depressed state of the market after the outbreak of war, and the willingness of a large body of producers to accept almost any price in their eagerness to make certain of getting some cash in, gave speculators and fellmongers a wonderful opportunity, and values for Merinos going lower and lower during the first half of the year under review, provided a great temptation and a great opportunity for those with any money to speculate to put same into wool. Those who had the temerity to do this, and shipped to distant markets for sale, benefited by the rapidly advancing market of the past six months, while those who scoured the wool, and either re-sold in the local markets or shipped to London for sale, also made handsome profits. As a matter of fact, it hardly mattered what grade of wool was bought for re-sale, and the greater the delay in realizing, much of which was not intended, the greater the profit.—Dalgety's Review.

"RELIANCE"

PAPER FLEECE TWINE

FOUR PLY

ONE PLY

IT'S STILL THE "BROWN" KIND

Made from high grade unbleached KRAFT Paper.
"K-R-A-F-T" Spells STRENGTH in the paper business
and STRONGEST as applied to Paper Fleece Twines.

Reliance One Ply is not so pliable, but much stronger than four ply and $1\frac{1}{4}$ c per lb. cheaper.

Reliance Four Ply is very soft and pliable, holds the knot well and has much more strength than any other four ply twine on the market.

Reliance Paper twines resist grease and moisture better than any other makes, but are perfectly soluble under the process of wool scouring.

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Packed for Shipment—

250 lengths $8\frac{1}{2}$ ft. each to bunch. 10 bunches a package—weighing 50 lbs., and containing 2500 pieces.

Four of these packages placed together in a burlap covered bale for shipping. Burlap bales contain 10,000 pieces and weigh about 220 lbs. each.

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**APPROVED
SHEEP
MARKING INK**

THE UNIVERSITY OF WYOMING
AGRICULTURAL COLLEGE
AND EXPERIMENT
STATION

January 30, 1915

Heath & Milligan,
1833 Seward Street,
Chicago, Illinois.

Gentlemen:

We have looked over the sheep which we have branded with your sheep marking ink. In every case so far the paint has stood the weather as well as our standard paint. We have also scoured up a sample of wool which had been saturated with your ink and then dried in the laboratory since October 19. It scoured out perfectly.

Very truly yours,

S. A. Hill
Wool Specialist.

UNFAIR TO WOOL GROWERS.

I notice in your last issue an interesting article, entitled, "We Ask Congress if This Is Fair," referring to the embargo that England has placed upon the importation of wool into this country, and the agreement that was made by England on one side and the State Department on the other, and the textile people as a third party. I am glad to see that you are taking this matter up in your paper. No greater injury in my judgment, has ever been concocted and put into effect than this. It not only violates our claims of being a neutral country, since the agreement expressly provides that the product was not to be retransported meaning thereby that it shall not go to the enemies of the allies, but it is also a violation of the Sherman Anti-trust Law, in that it seeks to control the wool business by the textile alliance.

If individuals were to enter into such a combination to control any commodity, they would immediately be subject to prosecution under that law. Here we behold the Government lending aid to the violation of such a law which, if done by one of its citizens, would come under her ban. Then again, of quite as much importance the tariff makers and revisers always claimed there would be no discrimination against any one industry, yet we find that these textile people, with the co-operation of the State Department, seek to discourage the exportation of wool from this country, thereby increasing the benefit to the textile people and correspondingly injuring the producer of wool.

Much more might be said along these lines, but it would be only adding that much more to the story of the wool growers woes.

A. W. RUCKER, Colorado.

NOT INSTALLING AUSTRALIAN SHED.

Regarding the report that we were going to put our wool up under the Australian system, I beg to state that we are simply building a shearing shed along the lines of the plans of an Australian shed. This shed is to be 54 feet wide and 150 feet long, and it is being built for hand shearers. We are simply going to sack the wool; no sorting or grading or baling is planned for the next few years. The cost of the shed will be about \$2,500.00 and the yards and corrals will cost about \$300.00. This shed will be used as a barn by members of the company at other seasons of the year.

M. A. SMITH, Salt Lake City, Utah.

IN WASHINGTON STATE.

The range in this part has been the driest this fall I have ever seen, and a good many springs dried up, so it has been very hard to find grass and water close together.

The snow fell here in the Wenatchee Valley the 24th of November so deep that most all of the sheep had to be brought in to be fed. I understand that alfalfa is selling at \$9.00 per ton in the stack, but there is very little for sale. There was light crop of hay here last summer.

It is hard to tell what the outcome will be. It all depends on the length of the winter for most every one is starting in to the winter short on the amount of hay they should have.

I believe the wool crop will be lighter per head than last year, but the amount will be about the same as last year for there are a few new men getting into the game, and they are finding it pretty expensive, for good ewes are selling from \$6.50 to \$7.50 per head.

Coyotes have been worse with my

SULPHUR
ALL GRADES—ANY QUANTITY
FROM A BAG TO A CARLOAD
Z. C. M. I. Drug Store

WOOL BAGS
We handle more Wool Bags
than any dealer in the inter-
mountain region.

PAPER TWINE
"Reliance" Paper Fleece Twine has the
greatest possible tensile and tying strength.

SHEEP SHEARS

B. B. A. and 71 or
Trades Union Shears

SOFT ARKANSAS and
LILY WHITE OIL
STONES



SALT LAKE CITY,
UTAH

sheep this fall than they ever were before. I have seen as many as five and six at one time. There is no bounty on them here in Yakima county. There is no one that I know of in this locality that is hunting or trapping coyotes, and I am sure it is on account of no bounty, for there are some good trappers and hunters here; there is a man named Troffer here that is an expert with poison. I think that if the Government would pay a good bounty it would be better than to hire hunters, for then everyone that could kill coyotes would do so to get the bounty.

FOREST FLETCHER, Washington.

**CORRIEDALE WOOL
IN AUSTRALIA**

For some years past we have drawn attention to the evolution which is taking place in the Australian flocks, and endeavored to impress upon the representatives of the manufacturing end of the industry that if they are sincere in their desire for fine quality Merino wool, they must support their sentiment by giving prices for superfine wool such as would encourage its production. Australia and New Zealand are peculiarly adapted for wool growing—our flockmasters are experts in sheep breeding, and will continue to produce the most profitable all-round sheep, and in this connection the somewhat rapid advance in popularity of the Corriedale breed is most marked. Corriedales are the only distinct breed of sheep which have been evolved in Australasia, and for general commercial purposes they appear to fill a long-felt want.—Dalgety's Review.

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Formerly Chief Chemist and Assayer,
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Also four years with
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Phone Wasatch 2041.

Send for free mailing pouches and price list.

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BUILDING SITES IN ALL PARTS OF CITY. LOW PRICES. EASY
TERMS. A FEW GREAT BARGAINS IN BUSINESS PROPERTY.

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Everything for Electricity. Auto Accessories. Expert Repairing.

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100% Service.

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DEATH CAMAS.

After extensive investigations the U. S. Department of Agriculture has issued Bulletin 125 dealing with sheep losses occasioned by wild onion or death Camas. Below we give a summary of the bulletin:

"Zygadenus grows abundantly on many of the stock ranges of the West and is one of the most important sources of loss to sheepmen. Apparently all species of Zygadenus are poisonous. The plants are poisonous through the whole season of their growth, but the tops are somewhat more poisonous at the time of flowering. The toxicity of the bulbs and tops is about the same, while the seeds are much more toxic than other parts of the plant. Cases of poisoning are more likely to occur before the maturity of

the plant, because at that time other forage is scanty.

"The toxic dose varies according to the conditions of feeding. In drenched animals it may be put at about one-half a pound for an animal weighing a hundred pounds. In fed animals it varied from 1.6 pounds to 5.6 pounds.

"Sheep, cattle, and horses are poisoned by the plant, but the fatalities are almost entirely confined to sheep.

"The principal symptoms are salivation, Nausea, muscular weakness, drowsiness, and sometimes attacks of labored breathing.

"To prevent losses, it is important to recognize the plant and avoid grazing upon it. If animals become sick they should be kept quiet, and under this treatment many will recover. There is no satisfactory medical remedy."

SOUTH AFRICA AS A BEEF-PRODUCING COUNTRY

(Consul Edwin N. Gunsaulus, Johannesburg.)

It is confidently thought by many well-informed persons in South Africa that this country is destined to become one of the great beef-producing countries of the world. Under normal conditions there has been every reason to believe that South Africa would in time assume considerable prominence as a supplier of certain grades of beef for the European markets, but the conditions brought about by the war appear to be hastening the day when this expectation will be realized and that, as a result, this country may before very long become a keen competitor with Australia and Argentina in supplying the world's big markets with this commodity.

Owing to the extraordinary demand for beef, it is stated that the rise in prices has already enable South African meat to obtain a footing in the London and other markets, and there are now indications that there will be a steady increase of these exports, provided South African producers pay due attention to market requirements.

IN SAN JOAQUIN, CALIFORNIA.

There are comparatively few sheep in this country now. I have been in the sheep business ever since 1883, and I really think that 80 per cent of the sheep has disappeared since that time in San Joaquin Valley due to the scarcity of range as it becomes smaller every year, especially on the eastern side. Whatever sheep there are are in very good condition. Business is better than it has ever been. There is no scab among the flocks; neither is there any other kind of disease. Last winter and last spring lambs were sold from \$4.50 to \$5.50 per head; wool from 20 to 21 cents a pound. There is considerable wool unsold yet, and the demand is lacking. But in spite of all, we are not inclined to sell at low offers as the outlook of the market is bright. My sheep, as well as those of many others, were not shorn this fall. Some sheepmen divided their flocks this fall at shearing time, and sold the wool for 10, 11 and 11½ cents per pound, a low price, but the fall clip in this country is generally seedy.

We just have had our first rain in this country this fall, and everything tends to grow some more, which will prove a great benefit to the stockmen, especially to the sheepmen who have a few bands of ewes already beginning to lamb. Most of the others will have their ewes lambing in about three weeks. There are but few alfalfa fields to lamb on so we will have to feed the ewes hay or corn on the range until the new grass is full grown.

JEAN SARTHOU, California.

LARGE WYOMING OUTFIT SOLD.

Following the death of Mr. Thomas Cosgriff in Denver last October, it is now reported that the large sheep outfit, of which he was the principal owner, has been sold to a company of men living in Rawlins, Wyoming. The deal is reported to cover 27,000 sheep and about 100,000 acres of deeded and leased land.

January 13, 14 and 15.

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SHEEP PASTURAGE.

S. B. Hollings, Bradford, England.

This is a subject to which reference is often made, but in its practical bearing it is inexhaustible, and it will never cease to be of real interest to readers of this issue. The sheep is an animal which is often credited with being able to largely secure its own food in the pastures on which it is kept, and out of this somewhat false assumption, largely arises much of the

inferior sheep stock which is found in various parts of the world. The writer takes it that the National Woolgrower stands for efficiency, and maximum value and production in both wool and mutton, and the emphasis which is laid upon good paying prices from time to time makes this point quite clear. The lesson which it is now intended to inculcate, is that good wool and heavy carcasses can only be grown by attending carefully to the all important question of feeding suggested in the word pasturage. In its widest bearings the word is applied very extensively, and for practical purposes may be taken to include not only pasturage, but everything suitable for feeding purposes. The old maxim that breed goes in at the mouth, will always remain true, and though great emphasis is often laid upon selection, there is no doubt that equally as much if not more is due to the provision of an adequate quantity and suitable quality of feed.

One of the most interesting occupations to practical sheepmen is to consider the developments which have taken place in sheep culture during the past hundred years, and to compare the types of sheep which were then most common with those which may be seen almost every day at the present time. The sheep kept in the early days of the Australian wool trade were of an exceedingly small and light woolled type, the fleeces they carried having very much the appearance of a tight fitting jacket.

Today Australian wool growers know what the production of a really heavy fleece of wool is, and there is no doubt that American sheep breeders have also developed very largely on the same lines. Just exactly how this development has been brought about would be somewhat difficult to minutely explain, though as already intimated the process is expressed in the one phrase, "good feeding." Close observers will have remarked what strange effects are produced upon the wool, flesh and general constitution of any individual sheep flock by the soil on which they are kept, and the longer they remain there the more pronounced

does this effect become. We might take as illustrations two types of soil, one being entirely deficient in lime, and the other containing a super abundance of this element. There are certain parts of Lancashire and Yorkshire where the soil contains a very large proportion of the lime element, and there are similar tracts in the South of England, though these are usually spoken of as being chalky. The farmers in the northern districts already referred to, know from practical experience that to keep a flock of sheep on this limey soil would sooner or later produce disastrous effects. Everyone knows how the handling of lime makes the hands harsh and the skin shrivelled. This illustrates the effect of limey soil upon the flocks kept there, and sheep which have become affected by it are locally described as being dried. Sheep suffering in this way have dry, harsh fleeces and their whole appearance is one of being withered and shrunk. A somewhat similar practical effect is produced upon flock kept on soil deficient in lime, though the outward appearance is certainly not the same. The wool may be more greasy, but there is always a certain amount of unthriftiness which certainly shows that something is lacking, and though the ewes may do fairly well for a time, they never really give the best returns in wool till they are sent elsewhere, and certainly never become fat enough to be sent to the butcher.

MORE SERVICE FROM RAMS.

We know of two rangemen that use the same rams for breeding in September and use them again in December. In each instance these men breed part of their ewes to lamb in February and the balance to lamb in April and May. After breeding the first lot of ewes, the rams are taken out and given about six weeks rest during which time they are grain fed. By December they are in good condition and are placed with another lot of ewes. The results obtained are said to be satisfactory.

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